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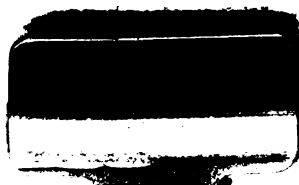
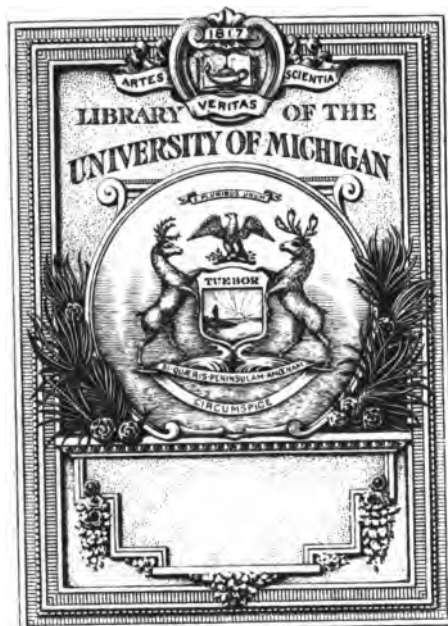
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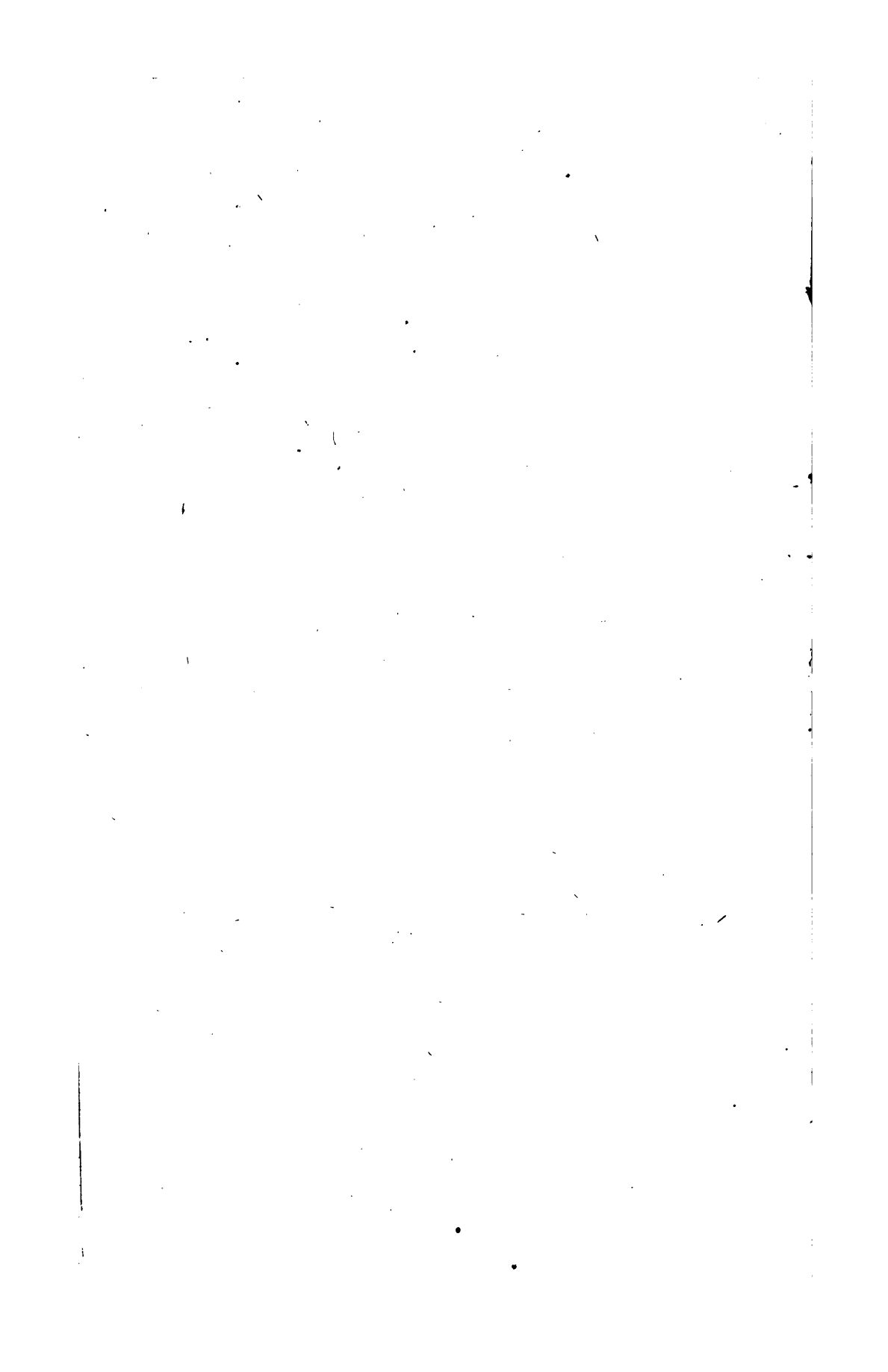
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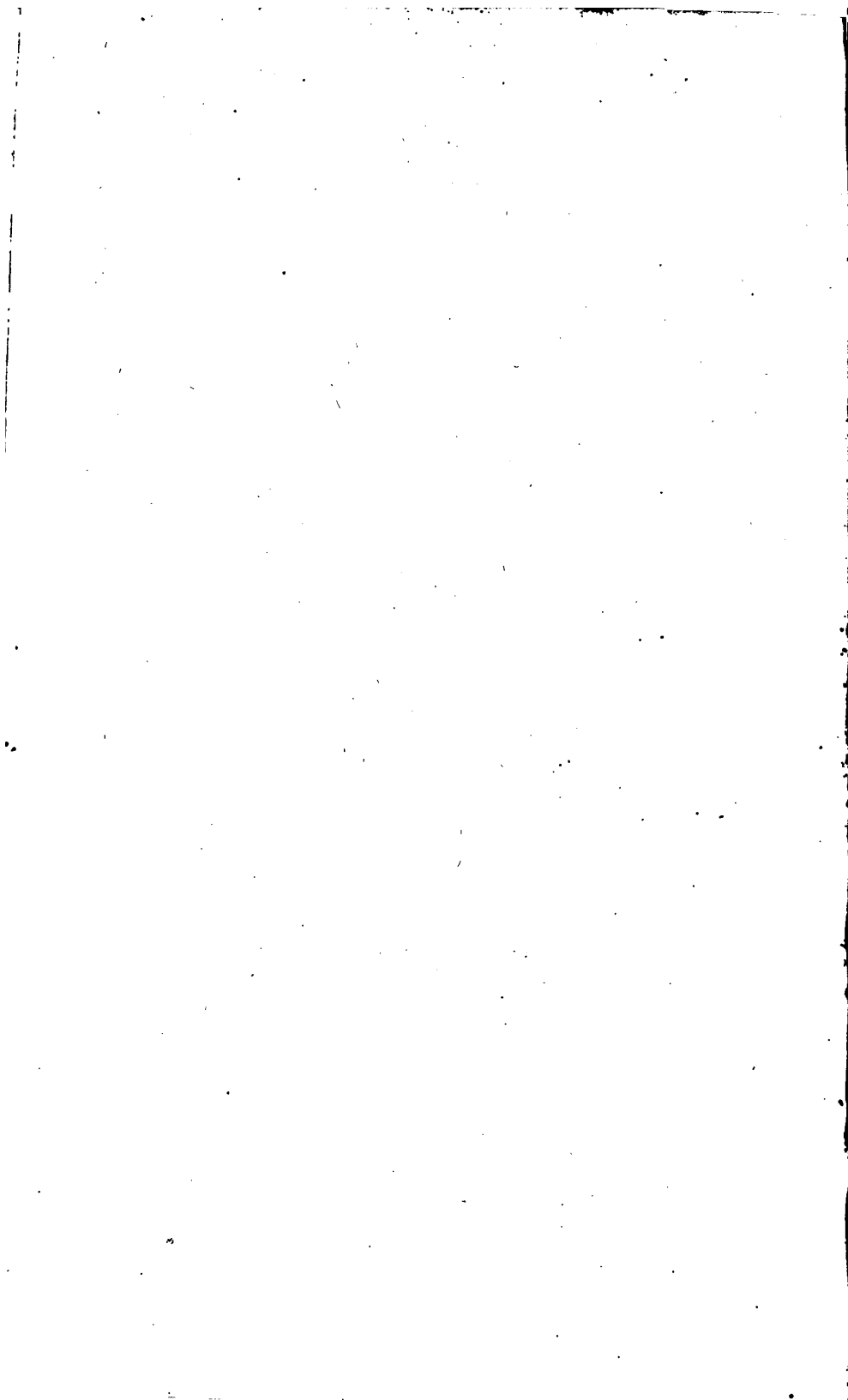
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1726





Sherwin, Henry, ed.

Mathematical TABLES,

Contrived after a most *Comprehensive Method* :

VIZ.

A TABLE of *Logarithms*, from 1 to 101000.
To which is added (upon the same Page) 'The
Differences and *Proportional Parts*, whereby the
LOGARITHM of any Number under 10,000,000
may easily be found.

TABLES of *Natural Sines*, *Tangents*, and
Secants, with their LOGARITHMS, and *Logarithmick*
Differences to every Minute of the Quadrant.

TABLES of *Natural Versed Sines*, and their
Logarithms, to every Minute of the Quadrant.

WITH THEIR

Construction and Use

By { Mr. Briggs }
 { Dr. Wallis } Savilian Professors of Geometry in
 { Mr. Halley } the University of Oxford.
 { Mr. Abr. Sharp.

L O N D O N :

Printed for Thomas Page, William and Fisher Mount,
at the Postern on Tower-Hill, 1726.

17

To Mr. Edm. Halley, Savilian
Professor of Geometry, in the
University of Oxford.

S I R,

IT being universally acknowledged
that by the Learned Professors of
Geometry in the SAVILIAN CHAIR,
(viz. Mr. Briggs, Dr. Wallis, and Your
Self) the *Logarithmical Art* hath re-
ceiv'd its greatest Improvements, and the
Use of those Numbers have by them
been fully taught and divulged. 'Tis
to You therefore, who succeed, and
share equally with your Famous Prede-
cessors in the same honourable Post,
(and in Memory of them) that I think
my self bound in Justice to present these
Collections.

Mr. Briggs, with excessive Patience,
Calculated Thirty one *Chiliads* of these
Decimal *Logarithms*, to Fourteen Places,
also the *Sines*, *Tangents*, *Secants*, with the

THE DEDICATION.

Logarithms, Sines and Tangents, and shew-
ed their Construction and Use; of which
Dr. *Wallis* gives a particular Account
in the Twelfth Chapter of his *Algebra*,
which is our Introduction.

Then I return you your own Com-
pendious and Facile Method of Con-
structing the *Logarithms*, with the Re-
verse of that Noble Problem: And
indeed, setting aside what is Printed from
Mr. *Briggs* above-mentioned, or Mr.
Abr. Sharp (to whom the World is in-
debted for their Industry in this kind)
the rest of the Discourses, both before
and after the Tables, are either Written
or Chosen by your self; therefore I expect
your kind Acceptance, and remain,

S I R,

Your very much Obliged

Humble Servant.

London, July 12, 1705.

Hen. Sherwin.

T H E



T H E
P R E F A C E.



ERE the Construction and Use of the following Tables known to every Body, they should come forth into the World without any Introductory Discourse; but as the Case stands, and that Knowledge is the share but of few, it may be proper to add something upon both those Heads: And what is here presented is gathered from the most Celebrated Authors that have Improved these Subjects amongst our selves, viz. Mr. Briggs, Dr. Wallis and Mr. Halley, the Three Professors of Geometry in the Savilian Chair at Oxford: To lead the Reader on from the Beginning, we give him the 12th Chapter of Dr. Wallis's Algebra, which treats of the Original of Logarithms, and gives a full History of their Progress. To this is subjoyn'd Mr. Halley's Compendious Method of making Logarithms, which proceeds abstractedly from the Nature of Numbers without any regard to the Hyperbola; from which is deduced for Practice the making of the Natural, and Mr. Briggs's: With the further Prosecution of the same Subject, generously Communicated by the ingenious and unwearied Mr. Abr. Sharp, with his Table of Logarithms to above Fifty Figures;
as

The PREFACE.

as also the Hyperbolick Logarithm of 10 to 80; and its Reciprocal, to 65. Then follows by the same Hand, the Construction of the Sines, Tangents and Secants; with the whole Process of the Quadrature of the Circle to 72 Figures: Which Quadrature was invented, and here demonstrated, by the above-mentioned Mr. Halley.

To come to the principal Part of the Performance; as to the Tables, we may venture to say (without Partiality) that we offer here a more compleat Set of them than can be found in any other Book now Extant, and doubt not, but upon careful Perusal, they will be found as Useful and Correct. The Method we observed in Printing the Logarithms is according to that Excellent Abbreviation of Dr. John Newton in his Trigonometria Britannica; to which is added, the Difference between each Logarithm, and the Proportional Parts, in the last Column of the same Page; by which the Logarithm of any Number (& contra) under 10,000,000 may be readily found, without turning to any other Page.

The Manner of placing the Tables of natural Sines, Tangents and Secants, and their Logarithms, is absolutely New, and very Advantageous; for to each Logarithm in those Tables are placed the Differences which are common to the Column of Logarithms on both sides: By which the Seconds may be easily found. And for that End, between them and the Table of Logarithms, is placed a small Table to convert Sexagesimals into Decimals, and contrarily.

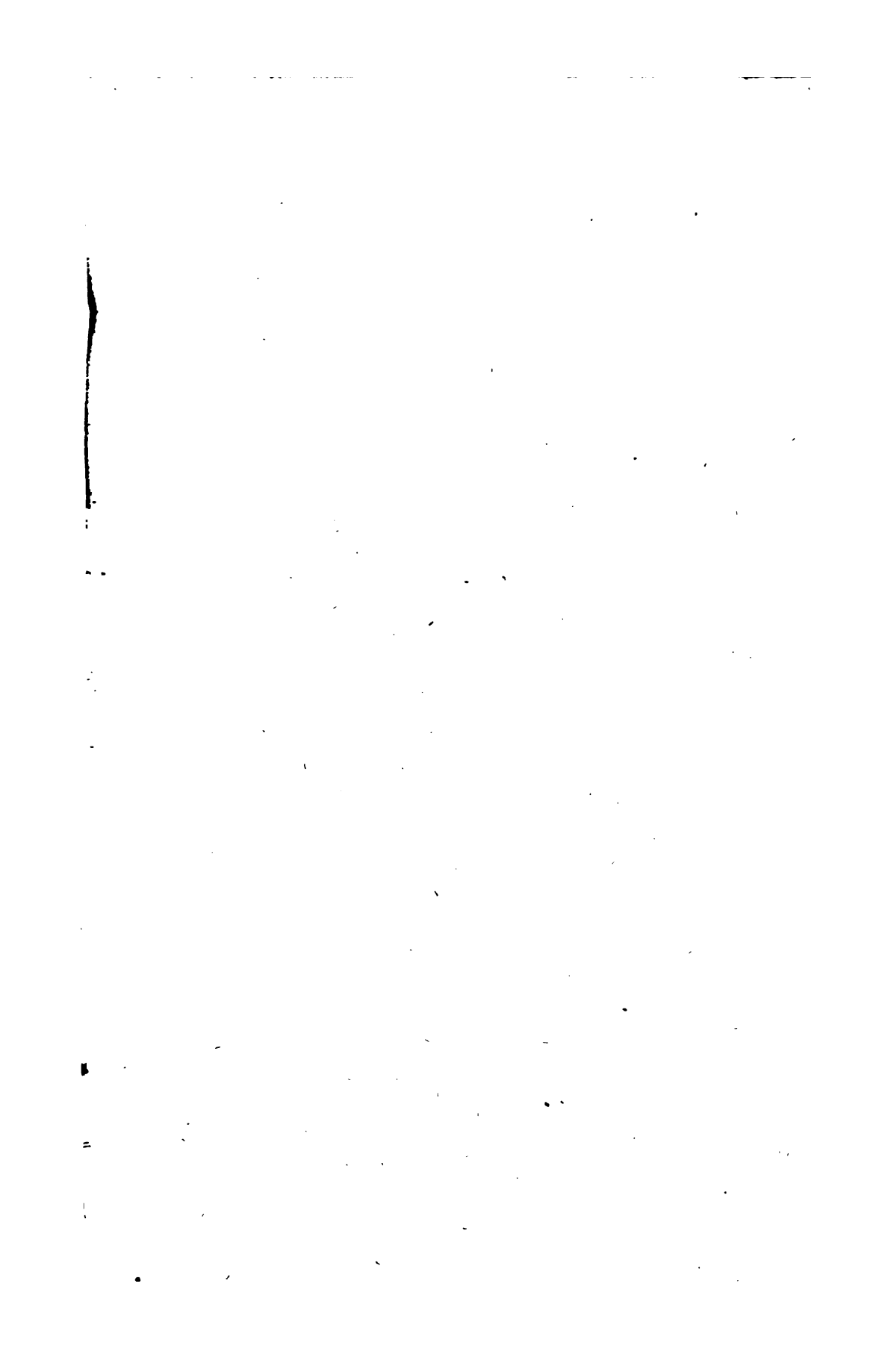
The next and chief Thing considerable in the Tables, is their Correctness; and here we will give a particular

Ac-

The P R E F A C E.

Account of the Measures we took to make them so. As for the Table of Logarithms it was examined from 1 to 20000 and from 90000 to 101000 by Mr. Briggs's Arith. Logar. Printed at London 1624, and from 1 to 100,000 by Adrian Vlacq's Table, Printed at Goudæ 1628. And to shew our Care herein, as well as for Publick Service, we here place a Table of the Errors we found (when Correcting our own) in Mr. Briggs's and Vlacq's, above-mentioned Canons; and because Vlacq's own Errata Table is found in few of his Books. (insomuch that Dr. Newton's above-mentioned Canon is printed with all his Errors) therefore we thought it necessary to give it here with our Additions. Where Note, that such of his Errors as we now found are marked with (a), and a single one in Mr. Briggs's with (b); and those which are Common to Mr. Briggs and Vlacq are marked with (B).

Num.	Logar.	Num.	Logar.	Num.	Logar.	Num.	Logar.	Num.	Logar.
80	B. 99870	5126	86018	9482	3.97089	15306	17090	45090	02353
169	67046	5194	19453	9706	02870	15843	74122	48376	a 4.99556
183	2.26244	5222	68675	9972	B 22698	16461	62149	49502	a 27458
238	62871	6157	14961	9972	B 58190	17509	B 13427	49717	a 49148
580	2.76342	6207	17454	10058	16313	17773	4 24976	49880	64448
590	2.77585	6257	3.79636	10061	B 11490	17780	17566	56359	a 32786
968	2.98587	6841	95904	10096	93419	19009	92707	57756	a 4.70154
1239	B 13064	6941	20444	10292	B 97775	19107	25036	60400	69386
1298	B 46925	6957	B 3.81242	10847	96402	19113	88598	61999	a 4.79238
1309	96466	7775	3.89070	10859	98331	19195	81165	62090	a 16598
1321	28196	7830	3.89376	11003	11130	20832	a 4.31873	65160	10756
1354	86643	8077	B 00829	11332	65658	24862	a 60621	66759	a 4.82450
1354	94567	8556	3.93227	11440	B 60245	28423	4.45366	67050	4.82639
1359	39403	8642	42620	11469	4.05952	33800	4.52891	73653	a 4.86719
1377	B. 05413	8692	97176	11920	4.07627	36460	61871	74832	a 73526
1626	a 89113	8832	90604	11955	95805	38780	78047	78700	47324
2434	05739	9174	3.96255	12328	26257	39844	a 4.60036	80212	93451
2534	B 66105	9176	34049	12398	16320	39845	a 4.60037	95666	b 4.99075
2544	71070	9182	3.96293	13274	18133	40598	4.60850	97105	a 15926
3319	37952	9317	3.96927	14020	80136	41018	a 44807	97828	a 4.97046
3499	39425	9354	73656	14527	59365	41490	a 34348	99090	B 98284
4599	34096	9429	3.97446	14763	46198	42506	a 02379	99910	89590
4906	75439	9480	3.97680	14786	B 07019	44656	a 98101	100008	a 47422



Proportional, this accordingly the First or Second of two Means Arithmetical; if that the Second of Five Means Proportional, this the Second of as many Arithmetical Means, &c.) Then to every Addition or Subduction of these one with another, will answer a like Multiplication or Division of those.

And if for 0, 1, 2, 3, &c. (taking $e=1$) we put, 0, 1, 2, 3, &c.; then doth this Exponent always give us the Number of Ratios or Dimensions in the Term to which it belongs.

1.	r .	rr .	r^3	r^4	r^5	r^6	&c.
0.	1.	2.	3.	4.	5.	6.	&c.

(As 3 in r , 6 in r^6 , and so every where) or shews, *How many fold* (*quam multiplicata*) the Proportion (for Instance) of r^6 to 1, is of r to 1. That is, how many Ratios or Proportions of r to 1, are compounded in r^6 to 1, to wit 6. To which the Name *Logarithmus* fitly answers; that is, $\lambda\omicron\gamma\omega\nu\ \alpha\rho\iota\theta\mu\acute{o}\varsigma$ the *Number of Proportions so Compounded*.

Now this Foundation being laid, their Design in the Logarithms is this: Having selected (as most convenient) a Rank of Continual Proportionals, in a Decuple Progression; to wit,

1. 10. 100. 1000. 10000. 100000. 1000000. &c.

They fit hereunto (as their Exponents) in *Arithmetical Progression*,

0. 1. 2. 3. 4. 5. 6. &c.

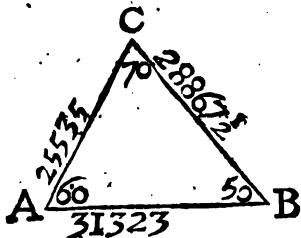
(And consequently, the Logarithm of any Fractions less than 1, is to be a Negative Number.) And then, for each of the Numbers interposed between 1 and 10, between 10 and 100, and so of the rest; (as 2, 3, 4, &c.) 11, 12, 13, &c.) they seek out (between 0 and 1, between 1 and 2, &c.) an Exponent (to be expressed in Decimal Parts) which is such a Mean Arithmetical, as the other is a Mean Proportional.

And these Exponents they call *Logarithms*, which are Artificial Numbers, so answering to the Natural Numbers, as that the Addition and Subduction of these, answers to the Multiplication and Division of the Natural Numbers.

By this Means, (the Tables being once made) the Work of Multiplication and Division is performed by Addition and Subduction; and consequently that of Squaring and Cubing, by Duplication and Triplation; and that of Extracting the Square and Cubick Root, by Bisection and Trisection; and the like in higher Powers.

Of these Logarithms we have Printed Tables, for all Numbers as far as *One Hundred Thousand*. So that, if any two Numbers (not exceeding 100,000) be proposed to be Multiplied or Divided one by the other, the Logarithms of those Numbers (to be found in those Printed Tables) being accordingly Added or Subducted, will give the Logarithm of that Natural Number (to be found by those Tables) which is the Product or Quotient of such Multiplication or Division. And the Double or Treble of such Logarithm, is the Logarithm of its Square or Cube. And the Half, or third Part of it, is the Logarithm of its Quadratick or Cubick Root; and the like of Higher Powers, which in large Numbers, is matter of great Expedition.

And (because a main End of this Design, was to facilitate Astronomical and other Trigonometrical Calculations) beside those Logarithms for Numbers in their Natural Order, we have also Tables of Artificial or Logarithmical *Sines*, *Tangents*, and *Secants*; the Addition and Subduction of which, answers to the Multiplication and Division of the *Natural Sines*, *Tangents*, and *Secants*: Which is a very Compendious Advantage for Expediting such Calculations; and is not less accurate than the Operation by Tables of *Natural Sines*, *Tangents*, and *Secants*.



Thus in a plain Triangle; supposing the Angles given, A 60 Degrees, B 50 Degrees, (and consequently, C 70 Degrees) and the Side AB 31323 *Paces*: For finding the Sides AC, or AB, we have this Proportion:

As the Sine of C, 70 Degrees,	9396926
To the Sine of B, 50 Degrees,	7660444
So is the Side AB,	<u>31323</u> <i>paces</i> .
To the Side AC,	25535 <i>-paces</i> .

For finding which, we are to Multiply 7660444 by 31323, and then Divide by 9396926; which gives for the Side AC (almost) 25535 *paces*.

And As the Sine of C, 70 Degrees	9396926
To the Sine of A, 60 Degrees	8660254
So in the Side AB,	<u>31323</u> <i>paces</i> .
To the Side BC,	28867 1/2 <i>paces</i> .

For finding which we are to Multiply 8660254 by 31323, and

Of Logarithms, their Invention and Use. 9

and Divide by 9396926, which gives for the Side BC, 28867½ paces, *proxime*.

Now (to prevent these tedious Multiplications and Divisions) by Logarithms, we proceed thus ;

Log. Sine C, 70 Degrees	— 9.9729858	Ar. Co. 0.0270142
Log. Sine B, 50 Degrees	+ 9.8842540	9.8842540
Log. A B, Num. 31323	+ 4.4958633	4.4958633
Log. A C, Num. 25535	+ 4.4071315	24.4071315

Where Subtracting the First Logarithm from the Sum of the Second and Third, gives the Fourth ; which (the Table tells us) answers to the Numbers 25535, *fers*. So many Paces therefore is the Side AC. Again,

Log. Sine C, 70 Degrees,	— 9.9729858	Ar. Co. 0.0270142
Log. Sine A, 60 Degrees,	+ 9.9375306	9.9375306
Log. AB. Num. 31323	+ 4.4958633	4.4958633
Log. BC. Num. 28867½	+ 4.4604081	24.604081

Where Subtracting the first Logarithm, from the Sum of the Second and third, gives the Fourth ; which (the Table tells us) answers to the Number 28867½ *proxime* : So many Paces therefore is the Side B C ; which Operations are much more Expeditious, than Multiplying and Dividing such large Numbers.

And in like manner, in Spherical Triangles, save that there all the Logarithms are to be taken out of the Tables of *Sines*, *Tangents* and *Secants* ; which, in this Example, are taken partly from thence, partly from the Table of Numbers ; but the Expedition is alike in both.

This was first Published by the Lord *Neper* (the first Inventor of it) in the Year 1614, under the Title of *Mirificus Logarithmorum Canon*, with its Description and Use ; but reserving the Manner of Construction, and its Demonstration, to be after Published : This being but an *Essay*, set fourth, to see the Judgment of Learned Men concerning this Design, and how it was like to be received.

In this we have a Canon or Table of Natural and Logarithmical *Sines*, for each Degree and Minute of the Quadrant.

And whereas it was at his Choice to give to what Number he pleased the Logarithm 0, and whether to proceed by way of Increase or Decrease, he chose to make 0 the Logarithm of the whole Sine 10000000, that so the Multiplication or Division by the whole Sine (frequent in Trigonometrical Calculation) might be dispatched without trouble, requiring here but the Addition or Subduction of 0.

And

And because the Use of Lesser Sines and Numbers, less than the Radius or whole Sine, were likely to be of more frequent Use, than of Tangents, Secants, and other Numbers greater than the Radius, he chose to give to those lesser Numbers Affirmative Logarithms (increasing the Logarithms from 0, as the Signs decrease) which he calls *Abundentes*: And consequently Negative Logarithms (which he calls *Defectives*) to greater Numbers. Designing those by +, these by —.

And by this means, he directs how this Table of *Sines* (with the Differences there inserted) may serve also for a Table of *Tangents* and of *Secants*; So that this Canon, is a Compleat Canon of *Natural Sines*, and of *Logarithmical Sines, Tangents, and Secants*. He shews also how this Table may be applied to the Logarithms of absolute Numbers but because with some trouble, he reserves the fuller account hereof to a farther Treatise.

In the Year 1619, the Lord *Neper* being then dead, the same was again Published by his Son *Robert Neper*; with some Posthumous Treatises of his Father, concerning the Construction of this Logarithmical Canon, and concerning his Design (after Communication had with Mr. *Briggs*) of changing the Form of Logarithms, making 0 to be the Logarithm of 1, (of which he had before given notice in the Preface to this *Rabdologia*, Published in the Year 1617;) and concerning some things pertaining to Trigonometry; with some Lucubrations of Mr. *Briggs*'s on the same Subject.

But the Lord *Neper* being dead, the whole Work was devolved on Mr. *Briggs*; who (according to their joint Advice) making the Logarithm of 1 to be 0, and of 10, 100, 1000, &c. to be 1, 2, 3, &c. which he calls *Indices*, or *Characteristicks*, and which we may repute as *Integer Numbers*, with Fourteen Ciphers annexed, which we may repute as so many places of Decimal Fractions, below the place of Units, or of the Characteristick: And between these he fits the Intermediate Logarithms for the Intermediate Numbers.

And consequently, the Logarithm of 1 being 0, the Logarithm of Fractions less than 1, or of Numbers intermediate between 1 and 0, must be Negative Numbers, or Numbers less than 0, (which he calls *Defective Logarithms*, denoted by — (the Note of Negation) prefixed.

Now these Defective Logarithms may be two ways expressed; either so as that the Note of Negation shall affect the whole Logarithm, or so as to affect only the Characteristick, (leaving the rest of the Logarithm to be understood as Affirmative.)

As for Example, The Fraction $\frac{1}{3}$, or (which is equivalent) 0.375. This Fraction supposeth the Numerator, 3 to be Divided by

by the Denominator 8, which in Logarithms is to be performed by Subtracting the Logarithm of 8, from that of 3, and the Remainder will be the Logarithm of $\frac{3}{8}$, which will then be the Negative Number,—0.4259687.

Or thus; for as much as the Logarithm of 375, (supposing it to be an Integer Number) is 2.5740313. And the depressing this to the First, Second, or Third, or further place of Decimal Fraction, doth (with altering the Figures) divide the Value by 10, 100, 1000, &c. which in Logarithms is done by Subtracting 1, 2, 3, &c. from the Characteristick, or place of Integers, (1, 2, 3, &c. in that place,

being the Logarithms of 10, 100, 1000, &c.) Such Alteration of the Value (the Figures remaining) is done by altering the Characteristick of the Logarithm, without varying the other Figures, in this manner.

Which two Forms, tho' they seem different, and some may rather choose the one, some the other; or in some Cases the one, and in some Cases the other; yet they are in Substance or Value the same. For

$$\begin{array}{r} -1.0000000 \\ +0.5740313 \\ \hline \text{is} = -0.4259687 \end{array}$$

And every one is left to his liberty, whether of the two ways (or what other equivalent thereunto) he shall please to use.

In this Method Mr. Briggs, hath calculated a Table of Logarithms, Published in the Year 1624) for 20 Chiliads of Absolute Numbers, (from 1 to 20,000;) and again for 10 more (from 90,000, to 100,000,) and one Chiliad Supernumerary (to wit, the Hundred and First Chiliad) that is 31 Chiliads in all.

Before which is prefixed, a large Account of the Nature and Construction of this Logarithmical Canon, and the Uses thereof; and Direction how to Supply the intermediate Chiliads, which are here wanting. The whole Intituled, *Arithmetica Logarithmica*.

The same was again Published in 1628, by *Adrian Vlacq* (or *Flack*,) with a Supplement (as Mr. Briggs directed) of the Chiliads before omitted; that is, in all, of 100 Chiliads, with one Supernumerary. But in shorter Number, extended but to 10 places below that of the Integers, or the Characteristick. And he subjoins also a Logarithmical Cannon of *Sines*, *Tangents*, and *Secants*,

Secants (for Degrees and Minutes of the Quadrant) of as many places.

Mr. *Briggs* proceeded to Calculate a Trigonometrical Canon Logarithmical, suited to that for Absolute Numbers, to the Logarithms, extending (as in that other) to 14 places, beside the Characteristick. And having before Calculated a Table of *Natural Sines, Tangents, and Secants*, (for Degrees and Centesimes of Degrees) in Numbers extending to 15 places, he fitted thereunto a Canon of *Logarithmical Sines and Tangents* (because those of *Secants* might be spared;) and a Treatise prefixed, concerning the Construction thereof, with other things pertinent thereunto; intending a farther Treatise concerning the Use of it.

But dying before this last was finished, or the rest published, Mr. *Henry Gollibrand* supplied this latter, and Published the whole, with the Title of *Trigonometria Britannica*, in the Year 1633. To which is subjoined another Canon of *Logarithmical Sines and Tangents*, by *Adrian Vlacq*, for Degrees, Minutes, and Tenth Seconds, extending (as his former did) to 10 places, beside the Characteristick; and Mr. *Briggs*'s 20 Chiliads for Logarithms of Absolute Numbers.

So that the whole Doctrine of Logarithms was by this time sufficiently perfected, with convenient Canons or Tables fitted thereunto, in large Numbers: of which also *Petrus Crugerus* gives an Account in the Preface to his *Trigonometria Logarithmica*, Printed in the Year 1634; with his Logarithmica l Tables, but in shorter Numbers.

And the Tables of Logarithms above mentioned, (for 100 Chiliads of Absolute Numbers, and for Sines and Tangents to Degrees and Centesimes) were the same Year 1633, contracted into a Lesser Form, and more Manageable (but in shorter Numbers, the former not extending to above 7 places, beside the Characteristick, but the latter to 10) by *Nathanial Roe*; with Directions for the Use of them (in Trigonometry, Geometry, Astronomy, Geography, and Navigation) by *Edmund Wingate*.

In the mean time, *Benjamin Urfinus* did also publish Tables of Logarithms, in the Year 1618; and again in the Year 1625, in his *Trigonometria*; and *Johannes Keplerus* also in the Year 1624, in his *Chilias Logarithmorum* (which he applies also to his *Rudolphine Tables*, published in 1627;) and *Claudius Batschius* about the same time, or soon after: And *Georgius Ludovicus Frobenius*, in the Year 1634, (and perhaps some others.) But all or most of them, in short Numbers; and conformable to the Lord *Neper*'s first Design; not to that Form which, upon second Thoughts, he and Mr. *Briggs* agreed upon as most Eligible, and which hath since been received in common practise.

Since

Since which time, much hath not been added to the Doctrine of Logarithms; nor was it necessary, that Work having obtained sufficient perfection.

But in case Logarithms, on any emergent occasion, be desirable with greater Exactness, and in larger Numbers than those Printed Tables do afford: Mr. *Nicolas Mercator*, in a small Treatise called *Logarithmotechnia*, Printed in the Year 1668, shews (with great subtilty) how it may be effected, in Numbers of whatever length desirable, with much more ease than heretofore.

Those that would see more of the Construction and Use of Logarithms, may consult the fore-mentioned Authors, especially *Brigg's Arithmetica Logarithmica*, and the *Trigonometria Britannica* of *Briggs* and *Gellibrand*; as also what *Adrian Vlacq* and *Peter Crugerus* have writ upon this Subject.

But one thing yet seems to be wanting to the more compleat Management of the *Logarithmical Canon*: For tho' there be a Canon of Logarithms for *Natural Numbers*, beginning from 1 to 100,000 so that the Logarithm may be had by the bare Inspection of the Canon; yet it is not alike easie to find the Number agreeing to a Logarithm given; but the nearest Logarithms on both sides being found, they are to be Corrected by the *Parts Proportional*, that so there may be found some Intermediate Number that may agree to the Logarithm given: To prevent which Inconvenience, there seems to be necessary an *Anti-Logarithmick Canon*; in which, the Logarithms being placed down in order, from 1 to 100,000, the *Natural Numbers*, answering to them, should be placed by them. So that by this Canon we might find the Number for any Logarithm, with the same Ease that we find the Logarithm for any Number by the Canon that we have.

Note, That which follows, not being in Dr. Wallis's *English Edition*, but continu'd in the 12th Chap. of his Latin one, is from thence done into English By Mr. Ditton.

And indeed, such a Canon hath been Constructed for many Years, but never yet made Publick. I don't know whether Mr. *Thomas Harriot* began that Canon, or no; but Mr. *Walter Warner* had his Papers, and from them put forth his *Algebra*, A D. 1631, and gave hopes of Publishing many things more. And the same *Warner* did, not long after, finish the said Canon (if at least he did not first begin it) and made it ready for the Press; and all this, I believe, about Fifty Years ago, if not more.

And this I was told lately by Dr. *John Pell*, who was intimately acquainted with Mr. *Warner*, and had assisted him in the Calculation. I remember also, that I saw that Work (and did but see it) among other Papers of Mr. *Harriot* or *Warner*, and

that

that now almost Thirty Years ago: What became of them after, I knew not, till I heard lately from Dr. Pell, that they were in the Hands of the Celebrated Dr. Richard Bushey, Master of Westminster School for many Years, and now very Old; who also gave me hopes of its coming forth in a little while, by the Care of Dr. Pell, if at least (to which I yielded without much difficulty) I would succeed Dr. Pell in that Care, if he should happen to die before the Work was finished. But Dr. Pell is dead, and that very Old, he dying about the Year 1685, the Edition of that Work being not so much as begun. And I fear, lest (Dr. Bushey dying also) this thing be quite lost; especially since there is none that will be willing to be at the Expence of the Edition.

As to the Use of Logarithms, altho' they were invented chiefly to facilitate *Trigonometrical Calculations*; yet they are of Use, where-ever there is any occasion for Multiplication or Division.

0	15	875
		95250
1	16	82750
		1 00965
2	17	83715
		1 070229
3	18	907379
		1 1344427 +
4	20	0418217 +
		1 2025093 +
5	21	2443310 +
		1 2746599 —
6	22	5189909 +
		1 3511395 —
7	23	8701304 —
		1 4222078 +
8	25	3023382 —
		1 5181403 —
9	26	8204785 —
		1 6092287 +
10	28	4297072 —
		1 7057824 +
11	30	1354896 +
		1 8081294 —
12	31	9436190 —

Thus in the Business of *Anatocism*, or *Compound Interest*, *Ex. Gr.* At the Rate of 6 in 100, for one Year. For then it will be, as 100 to 106, or as 1 to 1.06 that is to 1.1⁶/₁₀₀. So is the *Principal*, to the *Principal*, increas'd by the Interest for one Year. And consequently the *Principal* is to be Multiplied by 1.06, for the first Year; and the Product of this must be Multiplied by 1.06, for the second Year; and so on, according to the Number of Years, that the Sum may be found that rises at the end of so many Years. Instead of which continued Multiplications, the Matter proceeds thus by Logarithms: To the Log. of the *Principal*, add so many times the Log. of 1.06, as is the Number of Years; this gives the Log. of the Sum, arising after that Term of Years and the Absolute Number answering to this Log. is the Sum desired.

Ex. Gr. Let the *Principal* be 15*l.* 17*s.* 6*d.* *English* Coin, that is (in *Decimal Parts*) 15.875 *l.* and let the Interest be at the Rate of 6 in the 100, for one Year, and to be continued in that same Proportion for 12 Years. Therefore the Number 15.875, is to be continually Multiplied by 1.06 twelve times; from whence arises 31.94362*l.* that is 31 *l.* 18*s.* 10¹/₂ *d.* nearly.

Now

Of Logarithm, their Invention and Use.

11

Now the same is more expeditiously done by the Logarithms;
 The Num. 1.06, expressing the *Rate of Interest*, its Log. is 0.0253058
 This Multiplied twelve times, according to the } 03.036696
 Number of Years, is _____
 The Log. of 15.875 (the Principal is _____) 1.2007137
 Both these added together, make the Logarithm 1.5043833
 To which answers the Absolute Number 31.94362,
 that is 31 l. 18 s. 10 d. nearly, as before.

Contrarywise, if giving the Time and Rate of Interest (as before) together with the Sum arising, viz. 31.94362, it be enquired from what Principal this must arise.

Then the Log. of the Sum arising is _____ 1.5043833
 From whence Subtract twelve times the Log. of } 0.3036696
 1.06, which is _____ }
 And there Remains the Log. of the Principal desired; viz. 15.876, whose Log. is _____ 1.2007137
 But then, if from the fore-mentioned Log. of the } 1.5043833
 Sum arising, viz. 31.94362, which is _____ }
 We Subtract the Log. of the Principal, which is 1.2007137
 Then the Remainder, which is _____ 0.3036696
 Divided by 12 (the Number of Years) will bring 0.0253058
 Which is the Log. of 1.06 the Rate of Interest.

Also, the said Remainder, which is _____ 0.3036696
 Divided by the Log. of the Interest, which is _____ 0.0253058
 Will give 12 in the Quotient, which is the Number of Years, in which such a Sum would arise, from such a Principal, according to such a Rate of Interest.

And after the said manner (*mutatis mutandis*) may other Questions, relating to *Anatocism*, be solv'd; such as *Oughtred* has succinctly propos'd in the Additions to his *Clavis*.

Likewise thus may one proceed in that known Question, about the continual doubling of an Unite; which uses to be propos'd concerning a Horse which should be Sold according to the Number of Nails in his Shoes. For setting the first Nail at a very inconsiderable Price, and the second at double the Price of the first, and the third at double the Price of the second; and so going on, continually doubling for every Nail; We shall come at last to a vastly great Sum.

The first Occasion of which Question, I believe to be what I have cited, Cap. 13. of my *Opus Arithmeticum*, from *Alsephad* (an Arabick Writer) in his *Commentaries* upon *Togravius*' Verses: Namely, That one *Sessa* an *Indian* having first found out the Game at *Cheffe*, and shew'd it to his Prince *Shehram*: The King, who was highly pleas'd with it, bid him ask what he would for the

Rear

Reward of his Invention; whereupon he ask'd That for the first little Square of the Chess-board, he might have one Grain of Wheat given him; for the second, two; and so on doubling continually, according to the Number of Squares in the Chess-board, which was 64. And when the King, who intended to give a very Noble Reward, was much displeas'd, that he had ask'd so trifling a one; *Seffa* declar'd, That he would be contented with this small one. So the Reward he had fix'd upon, was order'd to be given him: But the King was quickly Astonish'd, when he found that this would rise to so vast a Quantity, that the whole Earth it self could not furnish out so much Wheat. But how great the Number of these Grains is, may be found by doubling one continually 63 times, so that we may get the Number that comes in the last place; and then one time more yet, to have the Sum of all. For the double of the last Term (less by one) is the Sum of all. Now this will be more Expeditionously done by Logarithms, and Accurately enough too for this purpose. For if to the Log. of 1, which, we add the Log. of 2 (which is 0.3010300) Multiplied by 64; that is 19.2659200; the absolute Number agreeing to this, will be greater than 18446.00000,00000.00000, and less than 18447.00000,00000.00000

Philosophical Transaction, Number 216.

A Most Compendious and Facile METHOD

F O R

Constructing the Logarithms

Exemplified and Demonstrated

From the N A T U R E of N U M B E R S,
Without any Regard to the *Hyperbola* :

With a Speedy METHOD for finding the N U M B E R
from the L O G A R I T H M given.

By Mr Edm. Halley, *Present Savilian Professor of Geometry
in the University of Oxford; and Fellow of the Royal
Society in London.*

THE Invention of the *Logarithms* is justly esteemed one of the most Useful Discoveries in the Art of Numbers, and accordingly has had an Universal Reception and Applause : And the great *Geometricians* of this Age have not been wanting to Cultivate this Subject with all the Accuracy and Subtilty a Matter of that Consequence doth require ; and they have demonstrated several very Admirable Properties of these *Artificial Numbers*, which have render'd their Construction much more Facile, than by those operose Methods, at first used by their truly Noble Inventer, the Lord *Nepair* ; and our worthy Country-Man, Mr. *Briggs*.

But notwithstanding all their Endeavours, I find very few of those, who make constant Use of *Logarithms*, to have attained an Adequate Notion of them ; to know how to Make or Examine them, or to understand the Extent of the Use of them : Contenting themselves with the Tables of them, as they find them, without daring to Question them, or caring to know how to Rectifie them, should they be found amiss ; being, I suppose, under the Apprehension of some great Difficulty therein. For the sake of such, the following *Tract* is principally intended ;
but

but not without hopes; however, to produce something that may be acceptable to the most knowing in these matters.

But first, it may be requisite to premise a Definition of *Logarithms*, in order to render the ensuing Discourse more clear; the rather, because the old one, *Numerorum proportionalium aequi differentes comites*, seems too scanty to define them fully. They may much more properly be said to be *Numeri Rationem Exponentes*: Wherein we consider *Ratio* as a *Quantitas sui generis*, beginning from the *Ratio of Equality*, or 1 to 1=0; being Affirmative, when the *Ratio* is increasing, as of Unity to a greater Number; but Negative, when decreasing: And these *Rationes* we suppose to be measured by the Number of *Ratiunculae*, contained in each. Now these *Ratiunculae* are so to be understood, as in a continued Scale of Proportions, infinite in Number between the two Terms of the *Ratio*; which infinite Number of Mean Proportionals is to that infinite Number of the like and equal *Ratiunculae* between any other two Terms, as the Logarithm of the one *Ratio* is to the Logarithm of the other. Thus if there be supposed between 1 and 10 an infinite Scale of Mean Proportionals, whose Number is 100000 &c. in infinitum; between 1 and 2 there shall be 30103 &c. of such Proportionals; and between 1 and 3 there will be 47712 &c. of them; which Numbers therefore are the Logarithms of the *Rationes* of 1 to 10, 1 to 2, and 1 to 3; and not so properly to be called the Logarithms of 10, 2 and 3.

But if instead of supposing the Logarithms composed of a Number of equal *Ratiunculae*, proportional to each *Ratio*; we shall take the *Ratio* of Unity to any Number, to consist always of the same infinite Number of *Ratiunculae*, their Magnitudes in this case, will be as their Number in the former. Wherefore if between Unity and any Number propos'd, there be taken any Infinity of Mean Proportionals, the Infinitely little Augment or Decrement of the first of those Means from Unity, will be a *Ratiuncula*; that is, the *Momentum* or *Fluxion* of the *Ratio* of Unity to the said Number: And seeing that in these continual Proportionals all the *Ratiunculae* are equal, their Sum, or the whole *Ratio*, will be as the said *Momentum* is directly; that is, the Logarithm of each *Ratio* will be as the Fluxion thereof. Wherefore, if the Root of any Infinite Power be extracted out of any Number, the *Differenciola* of the said Root from Unity, shall be as the Logarithm of that Number. So that Logarithms, thus produced, may be of as many Forms as you please, to assume infinite *Indices* of the Power whose Root you seek: As if the *Index* be supposed 100000 &c. infinitely, the Roots shall be the Logarithms invented by the Lord Neper; but if the said *Index* were 2302585 &c. Mr. Briggs's Logarithms would immediately be produced. And if you please to

to stop at any Number of Figures, and not to continue them on, it will suffice to assume an *Index* of a Figure or two more than your intended Logarithm is to have; as Mr. *Briggs* did, who, to have his Logarithms true to 14 places, by continual Extraction of the Square Root, at last came to have the Root of the 140737488355328th Power; but how operose that Extraction was, will be easily judged by whoso shall undertake to Examine his *Calculus*.

Now, tho' the Notion of an Infinite Power may seem very strange, and (to those that know the Difficulty of the Extraction of the Roots of High Powers) perhaps impracticable; yet by the help of that Admirable Invention of Mr. *Newton*, whereby he determines the *Uncia*, or Numbers prefix'd to the Members composing Powers (on which chiefly depends the Doctrine of *Series* the Infinity of the *Index* contributes to render the expression much more easie: For if the Infinite Power to be Resolved be put (after Mr. *Newton's* Method)

$$\frac{p+p q, p+p q}{1-3 m+2 m m} \mid \frac{1}{1-5 m+11 m m-6 m^3} \mid^m \text{ or } 1+q \mid^m, \text{ instead of } 1+\frac{1}{m} q+\frac{1}{2 m m} q q+\frac{1}{24 m^3} q^3+\frac{1}{24 m^4} q^4 \&c. \text{ (which is the Root}$$

when *m* is finite) becomes $1+\frac{1}{m} q-\frac{1}{2 m} q q+\frac{1}{3 m} q^3-\frac{1}{4 m} q^4+\frac{1}{5 m} q^5$ &c. *m m* being infinite infinite, and consequently whatever is divided thereby vanishing. Hence it follows, that $\frac{1}{m}$ Multiplied

into $q-\frac{1}{2} q q+\frac{1}{3} q q q-\frac{1}{4} q^4+\frac{1}{5} q^5$ &c. is the Augment of the first of our Mean Proportionals between Unity and $1+q$, and is therefore the Logarithm of the *Ratio* of 1 to $1+q$; and whereas the Infinite Index *m* may be taken at pleasure, the several

Scales of Logarithms to such *Indices*, will be as $\frac{1}{m}$ or Recipro-

cally as the *Indices*. And if the *Index* be taken 10000 &c. as in the case of *Neper's* Logarithms, they will be simply $q-\frac{1}{2} q q+\frac{1}{3} q q q-\frac{1}{4} q^4+\frac{1}{5} q^5-\frac{1}{6} q^6$ &c.

Again, if the Logarithm of a decreasing *Ratio* be sought, the

Infinite Root of $1-q$, or $\frac{1}{1-q} \mid^m$ is $1+\frac{1}{m} q-\frac{1}{2 m} q^2+\frac{1}{3 m} q^3-\frac{1}{4 m} q^4+\frac{1}{5 m} q^5-\frac{1}{6 m} q^6$ &c. whence the Decrement of the first of our Infinite Number of Proportionals will be $\frac{1}{m}$ into $q+\frac{1}{2} q q+\frac{1}{3} q^3+\frac{1}{4} q^4+\frac{1}{5} q^5+\frac{1}{6} q^6$ &c. which therefore will be as the Logarithm of the *Ratio* of Unity to $1-q$. But if *m* be put 10000 &c. then the said Logarithm will be $q+\frac{1}{2} q q+\frac{1}{3} q^3+\frac{1}{4} q^4+\frac{1}{5} q^5+\frac{1}{6} q^6$ &c. Hence

Hence the Terms of any *Ratio* being a and b , becomes $\frac{b-a}{a}$ or the Difference divided by the Lesser Term, when 'tis an increasing *Ratio*; or $\frac{b-a}{b}$ when 'tis decreasing, or as b to a . Whence the Logarithm of the same *Ratio* may be doubly exprest, for putting x for the Difference of the Terms a and b , it will be either

$$\frac{1}{m} \text{ into } \frac{x}{b} + \frac{x^2}{2bb} + \frac{x^3}{3b^3} + \frac{x^4}{4b^4} + \frac{x^5}{5b^5} + \frac{x^6}{6b^6} \text{ \&c. or}$$

$$\frac{1}{m} \text{ into } \frac{x}{a} - \frac{x^2}{2aa} + \frac{x^3}{3a^3} - \frac{x^4}{4a^4} + \frac{x^5}{5a^5} - \frac{x^6}{6a^6} \text{ \&c.}$$

But if the *Ratio* of a to b be supposed divided into two parts, viz. into the *Ratio* of a to the Arithmetical Mean between the Terms, and the *Ratio* of the said Arithmetical Mean to the other Term b , then will the Sum of the Logarithms of those two *Rationes* be the Logarithm of the *Ratio* of a to b ; and substituting $\frac{1}{2}z$, instead of $\frac{1}{2}a + \frac{1}{2}b$, the said Arithmetical Mean, the Logarithms of those *Rationes* will be, by the foregoing Rule,

$$\frac{1}{m} \text{ in } \frac{x}{z} + \frac{xx}{2zz} + \frac{x^3}{3z^3} + \frac{x^4}{4z^4} + \frac{x^5}{5z^5} + \frac{x^6}{6z^6} \text{ \&c. and}$$

$$\frac{1}{m} \text{ in } \frac{x}{2zz} + \frac{xx}{2zz} - \frac{x^3}{3z^3} - \frac{x^4}{4z^4} + \frac{x^5}{5z^5} - \frac{x^6}{6z^6} \text{ \&c.}$$

the Sum $\frac{1}{m} \text{ in } \frac{2x}{z} + \frac{2x^3}{3z^3} + \frac{2x^5}{5z^5} + \frac{2x^7}{7z^7} \text{ \&c. will be the}$
 Logarithm of the *Ratio* of a to b , whose Difference is x , and Sum z . And this *Series* converges twice as swift as the former, and therefore is more proper for the Practice of making of Logarithms: Which it performs with that Expedition, that where x the Difference is but the Hundreth Part of the Sum, the first

step $\frac{2x}{z}$ suffices to Seven Places of the Logarithm, and the second step to Twelve. But if Briggs first Twenty Chiliads of Logarithms be supposed made, as he as very carefully computed them, to Fourteen Places, the first step alone is capable to give the Logarithm of any intermediate Number true to all the places of those Tables.

After the same manner may the Difference of the said two Logarithms be very fitly applied to find the Logarithms of Prime Numbers, having the Logarithms of the two next Numbers above and below them: For the Difference of the *Ratio* of a to $\frac{1}{2}z$, and of $\frac{1}{2}z$ to b is the *Ratio* of a to b , to $\frac{1}{2}zz$, and the half of that *Ratio* is that of \sqrt{ab} to $\frac{1}{2}z$, or of the Geometrical Mean to the Arithmetical.

Arithmetical. And consequently the Logarithm thereof will be the Half Difference of the Logarithms of those Ratios, viz.

$$\frac{1}{m} \text{ into } \frac{x^2}{2 \cdot x^2} + \frac{x^4}{4 \cdot x^4} + \frac{x^6}{6 \cdot x^6} + \frac{x^8}{8 \cdot x^8} \text{ \&c.}$$

Which is a Theorem of good dispatch to find the Logarithm of $\frac{1}{2} x$. But the same is yet much more advantageously perform'd by a Rule derived from the foregoing; and beyond which, in my Opinion, nothing better can be hoped. For the Ratio of $a:b$ to $\frac{1}{2} x z$, $\frac{1}{2} a \cdot a + \frac{1}{2} a b + \frac{1}{2} b b$, has the Difference of its Terms $\frac{1}{2} a \cdot a - \frac{1}{2} a b + \frac{1}{2} b b$, or the Square of $\frac{1}{2} a - \frac{1}{2} b = \frac{1}{2} x x$, which in the present Case of finding the Logarithms of Prime Numbers, is always Unity; and calling the Sum of the Terms $\frac{1}{2} x z + a b = y y$, the Logarithm of the Ratio of \sqrt{ab} to $\frac{1}{2} a + \frac{1}{2} b$ or $\frac{1}{2} x$ will be found

$$\frac{1}{m} \text{ in } \frac{1}{y y} + \frac{1}{3 y^3} + \frac{1}{5 y^5} + \frac{1}{7 y^7} + \frac{1}{9 y^9} \text{ \&c.}$$

Which converges very much faster than any Theorem hitherto Published for this Purpose.

Here note, that $\frac{1}{m}$ is all along applied to adapt these Rules to all sorts of Logarithms. If m be 10000 &c. it may be neglected, and you will have *Nepair's* Logarithms, as was hinted before; but if you desire *Briggs's* Logarithms, which are now generally received, you must divide your Series by

2.30258.50929.94045.68401.79914.54684.36820.76011.01488.62877.29760.33328

Or Multiply it by the Reciprocal thereof, viz.

0.43429.44819.03251.82765.11289.18916.60608.22943.97005.80366.65661.14454

But to save so operose a Multiplication (which is more than all the rest of the Work) it is expedient to divide this Multiplier by the Powers of x or y continually, according to the direction of the Theorem, especially where x is small and Integer, reserving the proper Quotes to be added together, when you have produced your Logarithm to as many Figures as you desire, of which Method I will give a Specimen.

If the Curiosity of any Gentleman, that has leisure, would prompt him to undertake to do the Logarithms of all Prime Numbers under 100000 to 25 or 30 Figures, I dare assure him that the Facility of this Method will invite him thereto; nor can any thing more easy be desired. And to encourage him, I here give the Logarithms of the first Prime Numbers, under 20, to sixty places, computed by the accurate Pen of Mr. *Abraham Sharp*, (from whose Industry and Capacity the World may in time expect great Performances) as they were communicated to me by our common Friend, Mr. *Euchid Spridall*.

Num.	Logarithm.
2	0.30102.99956.63981.19521.37388.94724.49302.67681.89881.46210.85419.10427
3	0.47712.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.29866
7	0.84509.80400.14256.83071.22162.58592.63619.34835.72396.33306.54065.03635
11	1.04139.26851.58225.04075.01999.71243.01424.17067.02190.46645.30945.56139
13	1.11394.33523.06836.76920.65051.57942.32843.08297.29188.38706.82718.01191
17	1.23044.89213.78273.92854.01698.94328.33703.00075.67378.42504.63973.80368
19	1.27875.36003.52828.96153.63334.75756.92931.79511.29337.39449.75989.06819

The next Prime Number is 23, which I will take for an Example of the foregoing Doctrine; and by the first Rules, the Logarithm of the Ratio of 22 to 23 will be found to be either

$$\frac{1}{22} - \frac{1}{968} + \frac{1}{31944} - \frac{1}{937024} + \frac{1}{25768160} \&c. \text{ or}$$

$$\frac{1}{23} + \frac{1}{1058} + \frac{1}{36501} + \frac{1}{1119364} + \frac{1}{32181715} \&c.$$

As likewise that of the Ratio of 23 to 24, by a like Process:

$$\frac{1}{23} - \frac{1}{1058} + \frac{1}{36501} - \frac{1}{1119364} + \frac{1}{32181715} \&c. \text{ or}$$

$$\frac{1}{24} + \frac{1}{1152} + \frac{1}{41472} + \frac{1}{1327104} + \frac{1}{39813120} \&c.$$

And this is the Result of the Doctrine of *Mercator*, as improved by the Learned Dr. *Wallis*. But by the second Theorem,

viz. $\frac{2x}{x} + \frac{2x^3}{3x^3} + \frac{2x^5}{5x^5} \&c.$ The same Logarithms are obtained by fewer steps: To wit,

$$\frac{2}{45} + \frac{2}{273375} + \frac{2}{922640625} + \frac{2}{2615686171875} \&c. \text{ and}$$

$$\frac{2}{47} + \frac{2}{311469} + \frac{2}{1146725035} + \frac{2}{3546361843241} \&c.$$

Which was invented and demonstrated in the Hyperbolick Spaces, Analogous to the Logarithms, by the Excellent Mr. *James Gregory* in his *Exercitationes Geometricae*, and since further prosecuted by the aforesaid Mr. *Speidall*, in a late Treatise in *English* by him published on this Subject. But the Demonstration, as I conceive was never till now perfected, without the Consideration of the *Hyperbola*, which, in a matter purely Arithmetical, as this is, cannot so properly be applied. But what follows, I think, I may more justly claim as my own, *viz.* That the Logarithm of the Ratio of the Geometrical Mean to the Arithmetical, between 22 and 24, or of $\sqrt{528}$ to 23, will be found to be either

$$\frac{1}{1058} + \frac{1}{1119364} + \frac{1}{888215334} + \frac{1}{626487882248} \&c. \text{ or}$$

$$\frac{1}{1057} + \frac{1}{3542796579} + \frac{1}{659676558485285} \&c.$$

All these *Series* being to be multiplied into 0.4342944819 &c. if you design to make the Logarithm of *Briggs*. But with great Advantage, in respect of the Work, the said 4342944819 &c. is divided by 1057, and the Quotient thereof again divided by three times the Square of 1057, and that Quotient again by $\frac{1}{3}$ of that Square, and that Quotient by $\frac{1}{3}$ thereof, and so forth, till you have as many Figures of your Logarithm as you desire. As for Example, The Logarithm of the Geometrical Mean between 22 and 24, is found by the Logarithms of 2, 3 and 11 to be

		1.36131696126690612945009172669805
	1057)43429 &c.(	41087462810146814347315886368
3 in	1117249)41087 &c.(	12258521544181829460074
3 in	1117249)12258 &c.(	6583235184376175
3 in	1117249)65832 &c.(	4208829765
3 in	1117249)42088 &c.(	2930
	Summa	1.36172783601759287886777711225117

Which is the Logarithm of 23 to thirty two places, and obtained by five Divisions, with very small Divisors; all which is much less Work, than simply multiplying the *Series* into the said Multiplier 43429 &c.

Before I pass on to the Converse of this Problem, or to shew how to find the Number appertaining to a Logarithm assigned, it will be requisite to advertise the Reader, that there is a small Mistake in the aforesaid Mr. *James Gregory's Vera Quadratura Circuli & Hyperbolæ*, published at Padua, Anno 1667, wherein he applies his *Quadrature* of the *Hyperbola* to the making the Logarithms: In page 48, he gives the Computation of the Lord *Nepair's* Logarithm of 10, to five and twenty places, and finds it 2302585092994045624017870, instead of 2302585092994045684017991; erring in the Eighteenth Figure, as I was assured upon my own Examination of the Number I here give you, and by Comparison thereof with the same wrought by another hand, agreeing therewith to 57 of the 60 places. Being desirous to be satisfied how this Difference arose, I took the no small Trouble of Examining Mr. *Gregory's* Work; and at length found, that in the inscribed *Polygon* of 512 Sides, in the Eighteenth Figure was a 0 instead of 9, which being rectified, and the subsequent Work corrected therefrom, the Result did agree to a Unite with our Number. And this I propose, not to Cavil at an easy Mistake in managing of so vast Numbers, especially by a Hand that has so well deserved of the Mathematical Sciences; but to shew the exact Coincidence of two so very differing Methods to make Logarithms, which might otherwise have been questioned,

From the Logarithm given, to find what Ratio it expresses, is a Problem, that has not been so much considered as the former, but which is solved with the like ease, and demonstrated by a like Process, from the same general Theorem of Mr. Newton: For as the Logarithm of the Ratio of 1 to $1+q$ was proved to be $\frac{1}{1+q}m-1$, and that of the Ratio of 1 to $1-q$ to be $1-\frac{1}{1-q}m$: So the Logarithm, which we will from henceforth call L , being given, $1+L$ will be equal to $\frac{1}{1+q}m$ in the one case; and $1-L$ will be equal to $1-\frac{1}{1-q}m$ in the other: Consequently $1+L$ will be equal to $\frac{1}{1+q}$ and $1-L$ to $1-q$; that is, according to Mr. Newton's said Rule, $1+mL+\frac{1}{2}m^2L^2+\frac{1}{6}m^3L^3+\frac{1}{24}m^4L^4+\frac{1}{120}m^5L^5$ &c. will be $=1+q$, and $1-mL+\frac{1}{2}m^2L^2-\frac{1}{6}m^3L^3+\frac{1}{24}m^4L^4-\frac{1}{120}m^5L^5$ &c. will be equal to $1-q$, m being any infinite Index whatsoever, which is a full and general Proposition from the Logarithm given to find the Number, be the Species of Logarithm what it will. But if Napier's Logarithm be given, the Multiplication by m is sav'd (which Multiplication is indeed no other than reducing the other Species to his) and the Series will be more simple, viz. $1+L+\frac{1}{2}LL+\frac{1}{6}L^3+\frac{1}{24}L^4+\frac{1}{120}L^5$ &c. or $1-L+\frac{1}{2}LL-\frac{1}{6}L^3+\frac{1}{24}L^4-\frac{1}{120}L^5$ &c. This Series, especially in great Numbers, converges so slowly, that it were to be wished it could be Contracted.

If one Term of the Ratio, whereof L is the Logarithm, be given, the other Term will be had easily by the same Rule: For if L were Napier's Logarithm of the Ratio of a the lesser, to b the greater term, b would be the Product of a into $1+L+\frac{1}{2}LL+\frac{1}{6}LLL$ &c. $=a+L a+\frac{1}{2}a LL+\frac{1}{6}a L^3$ &c. But if b were given, a would be $=b-bL+\frac{1}{2}bLL-\frac{1}{6}bL^3$ &c. Whence, by the help of the *Chiliade*, the Number appertaining to any Logarithm will be exactly had to the utmost extent of the Tables. If you seek the nearest next Logarithm, whether greater or lesser, and call its Number a if lesser, or b if greater than the given L , and the Difference thereof from the said nearest Logarithm, you call l ; it will follow that the Number answering to the Logarithm L will be either a into $1+\frac{1}{2}lL+\frac{1}{6}l^2L^2+\frac{1}{24}l^3L^3+\frac{1}{120}l^4L^4$ &c. or else b into $1-\frac{1}{2}lL+\frac{1}{6}l^2L^2-\frac{1}{24}l^3L^3+\frac{1}{120}l^4L^4$ &c. wherein as l is less, the Series will converge the swifter. And if the first 20000 Logarithms be given to fourteen places, there is rarely occasion for the three first steps of this Series to find the Number to as many places. But as for *Vlacq's* great Canon of 100000 Logarithms, which is made but to ten places, there is scarce ever need for more than the first step $a+al$, or $a+mal$ in one case, or else $b-bl$, or $b-mbl$ in the other, to have the Number true to as many Figures as those Logarithms consist of.

If future Industry shall ever produce Logarithmick Tables to many more places, than now we have them, the aforesaid Theorems will be of more Use to deduce the correspondant Natural Numbers to all the places thereof. In order to make the first *Chiliad* serve all Uses, I was desirous to contract this Series, wherein all the Powers of l are present, into one, wherein each alternate Power might be wanting; but found it neither so Simple or Uniform as the other. Yet the first step thereof is, I conceive, most Commodious for Practice, and withal exact enough for Numbers not exceeding Fourteen Places, such as are Mr. Briggs's large Table of Logarithms; and therefore I recommend it to common Use.

It is thus: $a + \frac{al}{1 - \frac{1}{2}l}$ or $b - \frac{bl}{1 + \frac{1}{2}l}$ will be the Number answering to the Logarithm given, differing from the truth but by one half of the third Step of the former Series. But that which renders it yet more Eligible, is, that with equal facility it serves for Briggs's, or any other sort of Logarithms, with the only variation of writing $\frac{1}{m}$ instead of 1, that is, $a + \frac{al}{m - \frac{1}{2}l}$ and $b - \frac{bl}{m + \frac{1}{2}l}$ or $\frac{a + \frac{1}{2}l \cdot a}{m - \frac{1}{2}l}$

and $\frac{b - \frac{1}{2}l \cdot b}{m + \frac{1}{2}l}$, which are easily resolved into Analogies, viz.

As 43429, &c. $-\frac{1}{2}l$ to $43429 + \frac{1}{2}l$: So is a to the Number sought.
Or, As 43429, &c. $+\frac{1}{2}l$ to $43429 - \frac{1}{2}l$: So is b to the Number sought.
If more steps of this Series be desired, it will be found as follows,
 $a + \frac{al}{1 - \frac{1}{2}l} - \frac{\frac{1}{2}al^3}{1 - l} + \frac{\frac{1}{8}al^5}{1 - 2l}$ &c. as may easily be demonstrated, by working out the Divisions in each step, and collecting the Quoties, whose Sum will be found to agree with our former Series.

Thus, I hope, I have clear'd up the Doctrine of Logarithms, and shewn their Construction and Use independent from the *Hyperbola*, whose Affections have hitherto been made Use of for this purpose, tho' this be a matter purely *Arithmetical*, not properly demonstrable from the Principles of *Geometry*. Nor have I been obliged to have recourse to the Method of *Indivisibles*, or the *Arithmetick of Infinites*; the whole being no other than an easie Corollary to Mr. Newton's General Theorem for forming Roots and Powers.

Of making Natural Logarithms.

TO the making of *Logarithms*, the First thing requisite is to find the Natural Logarithms of Two or Three of the least and first Prime Numbers, *viz.* of 2, 3 and 5, or rather 10, by the Reciprocal of which *Briggs's* (that are the most useful Logarithms) are compos'd.

The Logarithm of 1, is always 0. That of 2, the next Prime, then is first requir'd; but to attempt to raise that directly and immediately, would be so very laborious and tedious a Task (much more the greater Primes) that 'tis more expedient to use such Fractionate Numbers as lie between 1 and 2, by the Multiplication whereof 2, 3 and 5 may be produc'd; of which, in the design'd Method, those are most convenient, whose Numerators exceed the Denominators only by an Unite, since hereby Multiplication is wholly avoided.

The Rule for making the Natural Logarithms of such improper Fractions, may be this:

i. e. The Sum of the Numerator and Denominator. To the Double of the Denominator, add an Unite †; this shall be the Divisor: The Excess of the Numerator above the Denominator, in this Case always 1,000 &c. is the Dividend: The Powers of this simple Fraction, compos'd of this Divisor and Dividend, must be rais'd by a continual Division, till the *Series* run out at such a Number of Figures as are requir'd; but (because none but the odd Powers are of Use) after the first Division, let that Quotient, and all the rest successively, be divided by the Square of the first Divisor. The Powers being thus rais'd, divide each respectively by its proper Index, *i. e.* the 1st by 1, the 2^d by 3, the 3^d by 5, &c. The Sum of all these Quotients will be the Natural Logarithm of the Fraction propos'd,

Because the Logarithms of three Prime Numbers, 2, 3 and 5, are sought, which are mutually subservient to the composing each other, no fewer than Three *Series* can suffice: Therefore Three improper Fractions must be chosen, in each of which two at least of these Prime Numbers are ingredient; of which, such as come nearest 1, as $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{5}$, require the greatest labour in raising their several *Series*; but from those, once compleated, the Logarithms of the desired Primes are most easily deduced: For those Fractions, that approach nearer 1,000 &c. (*i. e.* whose Denominators are greater) the *Series* are rais'd with less labour, tho' the deducing the Logarithms of the Primes therefrom be a little more intricate, and infer many more Additions of Logarithms; but that being a Trouble scarce at all considerable, comparatively with that of making the *Series*, these must be suppos'd more

I. The

I. The Series for making the Logarithm of $\frac{1}{4}$ twice $2+1=3$ the first Divisor, the Square of $5=25$ the Divisor for the rest.

5) 1.00000.00000.00000.00000.000000	The Odd Powers divided by 1, 3, 5, &c.
(.20000.00000.&c.	.20000.00000.00000.00000.000000
25) 20&c(800.00000.	3) 266.56666 66666.66666.666667
25) 800&c(32.00000.	5) 6.40000. &c.
25) 3200&c(1.28000.	7) .18285.71428.57142.857143
25) 1280&c(5120.00000.	9) 5688.88888.88888.888889
25) 5120&c(204.80000.	11) 18.61818.18181.818182
25) 20480&c(8.19200.	13) .63015.38461.538461
25) 81920&c(.32768.00000.	15) 2184.53333.333333
25) 32768&c(1310.72000.	17) 77.10117.647059
25) 131072&c(52.42880.000000	19) 275941.052632
25) 524288&c(209175.200000	21) 9986.438095
25) 2091752&c(8388.608000	23) 364.722087
25) 8388608&c(335.544320	25) 13.421773
25) 335544320 (134.21773	27) 497403
25) 13421773 (536871	29) 18513
25) 536871 (21475	31) 693
25) 21475 (859	33) 26
25) 859 (34	35) 1

The Sum is the Natural Log. of $\frac{1}{4}=0.20273.25542.54082.19098.900057$

II. The Series for making the Logarithm of $\frac{1}{7}$; twice $3+1=7$ the first Divisor, the Square of $7=49$ the Divisor for the rest.

7) 1.00000.00000.00000.00000.000000	The Odd Powers divided by 1, 3, 5, &c.
(.14285.71428.57142.85714.285714	.14285.71428.57142.85714.285714
49) 14&c(291.54518.95043.73177.842566	3) 97.18172.98347.91059.280855
49) 2915&c(5.94990.18266.19862.772297	5) 1.18998.03653.23972.154459
49) 5949&c(.12142.65678.90201.240251	7) 1734.66525.55743.034322
49) 12142&c(247.80932.22249.004903	9) 27.53436.91361.000545
49) 247809&c(5.05733.31066.306223	11) 45975.75551.482384
49) 505733&c(.10321.08797.271556	13) 793.92984.405504
49) 103210&c(210.63444.842277	15) 14.04225.556152
49) 210634&c(4.29866.221271	17) 25286.248310
49) 429866&c(8772.780026	19) 461.725264
49) 8772780026(179.036327	21) 8.525539
49) 179036327(3.653803	23) 158861
49) 3653803(74567	25) 2983
49) 74567(1522	27) 56
49) 1522(31	29) 1

The Sum is the Natural Log. of $\frac{1}{7}=0.14384.10362.255890.40371.96949$

Ist Series	=	$\frac{1}{4}=0.20273.25542.54082.19098.900057$
IId Serie	=	$\frac{1}{7}=0.14384.10362.255890.40371.96949$
4	=	$1st + 2d = 2=0.34657.35902.79972.65470.861606$
5	=	$1st + 4th = 3=0.54930.61443.34054.84569.762263$
6	=	$2d + 5th, or = 4 + 4 = 4=0.69314.71805.59945.30941.723212$
next pag	IId Series	=
7	=	$6 + 3 = \frac{1}{2}=0.11157.17756.57104.87789.314755$
8	=	$5 + 3 = 5=0.80471.89562.17050.18730.037967$
	=	$4 + 7 = 10=1.15129.25464.97022.84260.899573$

24 An Easy and Compendious Method of making Logarithms.

III. The Series for the Logarithm of $\frac{1}{2}$ or $\frac{1}{4}$; twice $4 \div 1 = 9$ the first Divisor, the Square of $9 = 81$ the Divisor for all the rest.

9) 1.00000.00000.00000.00000.00000	The Odd Powers divided by 1, 3, 5, &c.
(11111.11111.11111.11111.11111	11111.11111.11111.11111.11111
81) 11222.137.17421.12482.85322.359396	3) 45.72473.70827.61774.119799
81) 1371122.169350.87808.43028.671104	5) .33870.17561.68605.734221
81) 16935222.2090.75158.12876.897174	7) 298.67879.73268.128168
81) 209075222.25.81194.79171.319718	9) 2.86797.19907.924413
81) 258117222.31866.35545.324935	11) 2896.94140.484085
81) 3186635222.393.41179.671913	13) 30.26244.582455
81) 3934117222.4.85693.574962	15) .32379.571664
81) 4856935222.5996.216975	17) 352.718646
81) 5996216975222.74.027271	19) 3.896177
81) 74027371222.913918	21) 43520
81) 913918222.11283	23) 490
81) 11283222.139	25) 6
The Sum is the Natural Log. of $\frac{1}{2} = .6931471805599453094172321$	

Those Three improper Fractions, whose Denominators, I presume, are the greatest that can be found, which are capable of effecting this, are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$; which shall be pitch'd upon as another Instance.

I. The Series for $\frac{1}{3}$, $\frac{1}{4}$. Twice $15 = 30$, $30 \div 1 = 31$ the first Divisor, the Square of $31 = 961$ is Divisor for the rest.

31) 1.00000.00000.00000.00000.00000	The Odd Powers divided by 1, 3, 5, &c.
(.03225.80645.16129.03225.806452	.03225.80645.16129.03225.806452
961) 0322222.3.35671.84720.21751.535699	3) 1.11890.51573.40583.845233
961) 3356822.349.29432.59127.733128	5) 69.85886.51625.546626
961) 34929222.36346.96419.487756	7) 5192.42245.641108
961) 363469222.37.82202.309561	9) 4.20244.701062
961) 378220222.3935.694391	11) 357.790399
961) 393569222.4.095416	13) .315032
961) 4095416222.4262	15) 284
The Sum is the Natural Log. of $\frac{1}{3} = .03225.80645.16129.03225.806452$	

II. The Series for $\frac{1}{4}$, or $\frac{1}{8}$. Twice $24 = 48$, $48 \div 1 = 49$ the first Divisor, and the Square of $49 = 2401$ is Divisor for the rest.

49) 1.00000.00000.00000.00000.00000	The Odd Powers divided by 1, 3, 5, &c.
(.02040.81632.65306.12244.897959	.02040.81632.65306.12244.897959
2401) 0204222.8.4998.49752.31408.681756	3) .28332.86584.10469.560585
2401) 8499822.35.40133.17464.143556	5) 7.08026.63492.828711
2401) 35401222.147444.113.895986	7) 210.63444.842277
2401) 14744222.61409.460182	9) 6823.273354
2401) 61409222.25.576618	11) 2.325147
2401) 25576618222.10652	13) 820
The Sum is the Natural Log. of $\frac{1}{4} = .02040.81632.65306.12244.897959$	

III.

deduced from Mr. Halley's preceding Discourse. 25

III. The Series for $1\frac{1}{2}$, or $\frac{3}{2}$. Twice 80, or $160 + 1 = 161$ is the first Divisor, the Square of $161 = 25921$ is Divisor for the rest.

161) 1.0000000000, &c. (#	The Odd Powers divid. by 1, 3, 5, &c.
* (.00621.11801.24223.60248.447205	.00621.11801.24223.60248.447205
25921) 00621 &c. (2396.19618.23323.183845	3) 798.73206.07774.394615
25921) 23961 &c. (9244.22739.22006	5) 1848.84547.844012
25921) 92442 &c. .35663.081641	7) 5094.725948
25921) 35663 &c. 1.375837	9) .152871
25921) 1375837	11) 5

The Sum is the Natural Log. of $\frac{3}{2} = 0.0621.12599.99278.57665.564656$

$$\begin{aligned}
 1 &= \frac{1}{1} = \frac{1}{1} = .03226.92605.68785.58583.646196 \\
 2 &= \frac{1}{2} = \frac{1}{2} = .02041.09972.601127.56477.728853 \\
 3 &= \frac{1}{3} = \frac{1}{3} = .00621.12599.99278.57665.564656 \\
 1^{st} + 2^{d} + 3^{d} &= 4 = \frac{1}{4} = \frac{1}{4} = .05889.15178.28191.72726.939705 \\
 1^{st} + 2^{d} + 4^{th} &= 5 = \frac{1}{5} = \frac{1}{5} = .11157.17756.57104.87788.314754 \\
 1^{st} + 5^{th} &= 6 = \frac{1}{6} = \frac{1}{6} = .14384.10362.25890.46371.960950 \\
 4^{th} + 6^{th} &= 7 = \frac{1}{7} = \frac{1}{7} = .20273.25540.54082.19098.900655 \\
 6^{th} + 7^{th} &= 8 = \frac{1}{8} = \frac{1}{8} = .34657.35902.79972.65470.861605 \\
 3^{rd} \text{ in } 8^{th} &= 9 = \frac{1}{9} = \frac{1}{9} = .1.03972.07708.39917.96412.584817 \\
 5^{th} + 9^{th} &= 10 = N. Log. 10 = 1.15129.25464.97022.84200.899571
 \end{aligned}$$

If greater Exactness be desired, more Series must be admitted : No fewer than Four will be sufficient, if the least Numbers be $(1^{st}) \frac{25}{24}$, then the (2^{d}) may be $\frac{26}{25}$, the $(3^{d}) \frac{40}{39}$, $(4^{th}) \frac{81}{80}$; then the $2^{d} + 3^{d} = (5^{th}) \frac{26}{25} + \frac{40}{39} = \frac{16}{15}$, $(6^{th}) \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$, &c. as in the foregoing Operation.

Other Four Series may be, (1) $\frac{49}{48}$, (2) $\frac{64}{63}$, (3) $\frac{126}{125}$, (4) $\frac{225}{224}$, (5) $\frac{126}{125} + \frac{225}{224} = \frac{81}{80}$, (6) $\frac{49}{48} + \frac{64}{63} + \frac{225}{224} = \frac{25}{24}$, (7) $\frac{64}{63} + \frac{126}{125} + \frac{25}{24} = \frac{16}{15}$, (8) $\frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$, &c. as above.

Five Series will be required, if the least Numbers (be 1^{st}) $\frac{64}{63}$, $(2^{d}) \frac{81}{80}$, $(3^{d}) \frac{100}{99}$, $(4^{th}) \frac{121}{120}$, $(5^{th}) \frac{126}{125}$; then $(6^{th}) \frac{81}{80} + \frac{100}{99} + \frac{121}{120} = \frac{25}{24}$, $(7^{th}) \frac{64}{63} + \frac{126}{125} + \frac{25}{24} = \frac{16}{15}$. Then, as before, $(8^{th}) \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$, &c.

Six Series will be necessary, when the least Numbers are : (1) $\frac{100}{99}$, (2) $\frac{121}{120}$, (3) $\frac{126}{125}$, (4) $\frac{225}{224}$, (5) $\frac{125}{124}$, (6) $\frac{961}{960}$, (7) $\frac{125}{124} + \frac{225}{224} = \frac{81}{80}$, (8) $\frac{81}{80} + \frac{100}{99} + \frac{121}{120} = \frac{25}{24}$, (9) $\frac{125}{124} + \frac{125}{124} + \frac{961}{960} = \frac{3125}{3072}$, (10) $\frac{25}{24} + \frac{3125}{3072} = \frac{16}{15}$, &c. as before.

26 *An Easy and Compendious Method of making Logarithms,*

As the Divisors are augmented, so likewise must the Number of Series.

Note, That all the foregoing Operations, represented by Fractions, are suppos'd to be performed by Logarithms.

But this Work having been already accomplished by the Industry of Mr. *Abr. Sharp*, need not be further insisted on; he has communicated the Hyperbolick Logarithm of 10, which is the double of this, by him computed and confirmed by a triple Proof to 82 Figures; and its Reciprocal, being

An Abacus for Reducing the Natural Logarithm to Mr. Briggs's.

1	0.86858.89638.06503.65530.22578.37833.21016.45887.94011.60733.1322.28907.56632.1
2	1.73717.79276.13007.31060.45156.75666.43032.91775.88023.21466.62644.57815.13264.2
3	2.60576.68914.19510.96590.67725.13499.63049.37663.82034.82199.93966.86722.69896.3
4	3.47435.58552.26014.62120.90313.51332.84065.53551.76046.42933.25289.15630.26528.4
5	4.34294.48190.32518.27651.1289.89166.05082.29439.70058.03666.56611.44537.83160.5
6	5.21153.37828.39021.92181.35470.26999.26098.75327.64069.64399.87933.73445.39792.6
7	6.08012.27466.45525.58711.58048.64832.47115.21215.58081.25133.19256.02352.96424.7
8	6.94871.17104.52029.24241.80627.02665.68131.67103.52092.85866.50578.31260.53056.8
9	7.81730.06742.58532.89772.03205.40498.89148.12991.46104.46599.81900.60168.09688.9

The Reciprocal of the natural Log. of 10 viz.
0.86858,89638,06503,65530,225784.
Multiply'd by the Natural Log. of $\frac{1}{2}$, viz.
.11157.17756.57104.87788.314755.

.08685.88963.80650.36553.022578
 0868.58896.38065.03655.302258
 086.85889.63806.50365.530226
 43.42944.81903.25182.765113
 6.08012.27466.45525.587116
 .08685.88963.80650.365530
 6080.12274.66455.255871
 608.01227.46645.525587
 43.42944.81903.251828
 5.21153.37828.390219
 .43429.44819.032518
 6080.12274.664552
 086.85889.638065
 3.47435.585523
 .69487.117104
 6080.122747
 608.012275
 69.487117
 6948712
 .260577
 08686
 3474
 608
 43
 4

The Product is Briggs's Log of $\frac{1}{2}$ =
.09691.00130.08056.41435.878331

being half of this here used, to 65 Figures; viz. The Natural Log. of 10 = 1.15129.25464.97022 84200 89957.27342.18210-38005.50744-31438.64880.16663.95048.37863.04838.67624.01, and its Reciprocal = 0.86858.89638.06503, &c. whereby Mr. Briggs's Logarithms, (which are most convenient for Use, the Log. of 10 being assign'd = 1.00000 &c.) are not only reduc'd from the Natural by Multiplication, but immediately rais'd with the greatest Ease and Expedition. For Instance, the Natural Log. of $\frac{1}{2}$ (in Page 24.) is reduc'd to Mr. Briggs's, in the foregoing Page; and for the more Ease, in the like Cases, the Reciprocal of the Natural Logarithm of 10 is multiply'd by 2, 3, 4, 5, 6, 7, 8, 9. in the Margin.

To confirm the former Way, Briggs's Logarithm of $\frac{1}{2}$ is immediately rais'd, in which the Reciprocal of the Natural Log. of 10 is made the first Dividend, all the rest must be as directed for making of Natural Logarithms, Page 22.

The Series for Briggs's Log. of $\frac{1}{2}$, twice $4 \div 1 = 9$ the first Divisor, the Square of 9 = 81 the Divisor for all the rest; as in the Natural Log. of $\frac{1}{2}$, Page 24.

9) 0,86858,89638,06503,65530,225784	The Odd Powers divided by 1, 3, 5, &c.
(09650,98848,67389,29503,358420	,09650,98848,67389,29503,358420
81)96848,67389,29503,358420	3) 39,71600,20030,40862,153738
81)1191&c.(1,47096,30371,49661,561249	5) ,29419,26074,29932,312250
81)14709&c.(1816,00374,95674,834089	7) 259,42910,70810,690584
81)18160&c.(22,41979,93773,763384	9) 2,49108,38197,084820
81)224197&c.(,27678,76466,342758	11) 2516,25133,303887
81)276787&c.(,341,71314,399293	13) 26,28562,646100
81)3417131&c. 4,21868,079004	15) ,28124,538600
81)421868079004(5208,247889	17) 306,367523
81)5208247889(64,299357	19) 3,384177
81)64299357(,793819	21) ,037801
81)793819(9800	23) 426
81)9800(121	25) 5

The Sum is Briggs's Log. of $\frac{1}{2}$ = 0,09691,00120,08056,41435,878331
Co Ar. is Briggs's Log. of 8 = 0,90308,99869,91943,58564,121669

What is writ, is sufficient to shew, how the Prime Logarithms may be made; and it's needless to say more, the abovesaid Mr. Abr. Sharp having, with inexpressible Care and Pains, compos'd the following Table of Logarithms (most of 'em to 61 places) for all Numbers under 100, and all Primes under 200. I durst not importune him to compleat the Figures wanting at the end of some of them: But the Ease of this Method may perhaps tempt some curious Reader to supply them, who will then be a Judge how much he is indebted to the Labours of this admirably Industrious Author.

M. BRIGG'S LOGARITHMS for all Numbers, from 1 to 100.
Calculated by that Ingenious Gentleman, and Indefatigable Mathematician,

[illegible]

and for all PRIME NUMBERS, from 100 to 200.
Mr. Abr. Sharp at Little-Horton near Bradford in Yorkshire.

61	1.78532.98350.10767.03388.7485.13757.32134.91633.78757.11340.42116.	65
62	1.79239.15894.98253.87488.04439.94841.90274.90718.91439.76623.7196.	66
63	1.79934.07494.5351.70530.2720.65102.86081.18838.30124.70535.71361.833662.	67
64	1.80617.99739.83887.17128.24333.68346.95816.06091.39288.77265.12478.625648.	68
65	1.81291.33566.42855.57399.27662.63217.83540.40515.33306.92495.97394.907639.	69
66	1.81954.39355.41868.67325.89667.69222.63257.76750.20936.11925.75007.368321.	70
67	1.82607.48027.00826.43414.91316.29226.06858.09496.26080.96851.3869.	71
68	1.83250.89127.66236.31896.76476.83777.32308.34399.47141.34926.34800.01234.	72
69	1.83884.90907.37255.31616.28050.15506.30485.88376.39828.52679.20531.0547.	73
70	1.84509.80400.14356.87071.22162.18592.63619.34835.72396.32396.54065.036350.	74
71	1.85124.33487.19079.28609.28294.39035.42913.52704.19901.60089.2001.	75
72	1.85733.24964.31268.46023.12724.90683.70969.87048.32737.72771.73535.910137.	76
73	1.86332.28601.20455.90107.43869.00470.30852.44528.68255.31165.74851.1.	77
74	1.86921.17197.30976.19008.21895.84183.62247.47511.63471.62342.10799.281074.	78
75	1.87506.12633.38700.04686.75501.13206.12925.56637.49101.26647.87122.020107.	79
76	1.88081.35922.80791.35196.38112.65205.91537.14875.02100.31871.46815.276735.	80
77	1.88649.07251.72481.87146.24162.2983566043.51902.74186.79021.85011.0081740.	81
78	1.89203.46026.90480.40171.52719.5921.93676.67986.47934.03987.26779.414841.	82
79	1.89762.70912.90441.42769.48213.86478.24968.64328.62019.02114.03156.2.	83
80	1.90378.99869.91942.18864.12166.84173.47908.03045.59442.18631.67229.372820.	84
81	1.90848.52188.78649.74918.01116.13020.46123.68005.15456.70218.34593.196085.	85
82	1.91381.38523.8371.66897.231507.44692.67382.62987.05515.29579.562.	86
83	1.91907.80923.76073.90383.27603.52027.26124.70016.37658.08063.04537.	87
84	1.92427.92860.61881.65843.47219.51206.73755.62200.8023.43887.83939.143155.	88
85	1.92941.89217.14302.73722.64309.99603.84400.32393.77125.96293.78560.699410.	89
86	1.93449.84512.43567.72161.88270.47953.71518.55769.64765.4220.1957.	90
87	1.93951.92516.18618.52462.78746.66224.37030.04544.23282.07784.97058.	91
88	1.94448.26721.50168.62639.14165.55416.10932.20112.71831.85377.87185.279242.	92
89	1.94939.00066.44912.78472.35433.69702.44112.46651.61858.10024.45836.3.	93
90	1.95424.29094.39934.37459.00558.06910.23065.84002.57728.32152.17266.97283.	94
91	1.95904.13923.21091.19991.87214.16534.96462.43133.018471.103.36783.0.	95
92	1.96378.78273.45555.26929.52949.04700.17560.32328.90797.26051.32708.9646.	96
93	1.96848.29485.53935.11696.17320.03273.53103.15002.30422.49489.05020.	97
94	1.97372.78535.99498.65962.79582.94173.69366.69279.92979.89205.63683.477569.	98
95	1.97772.36052.98477.76632.25945.81032.43629.11829.39455.92323.90575.963914.	99
100	1.98227.12330.39568.41336.37223.76877.58044.30410.78271.50122.85713.820029.	101
101	1.98677.17342.66244.85178.43618.11664.57744.94258.41584.63886.69747.2.	102
102	1.99122.60556.92498.35662.81714.11909.76541.37353.34674.11035.93543.176974.	103
103	1.99563.19455.97549.91534.00557.77753.25486.01069.59918.84784.48242.56270.	104
104	2.00000.0000. &c.	105
105	2.00432.13737.8642.47427.51881.78222.93791.32192.89355.20645.89914.058186.	106
106	2.00853.72247.09172.30517.10911.94580.23942.43905.22496.97603.05648.	107
107	2.01293.37776.85209.54083.45412.35461.43964.61268.16891.63401.95.	108
108	2.01742.64979.40623.63520.05133.07613.87528.66422.04522.82798.3682.	109
109	2.02205.84434.83419.72279.52270.28609.44818.47784.8362.3.62299.734.	110
110	2.02671.10380.37509.55996.86424.69874.21847.28625.84765.63299.795.39.38677.6.	111
111	2.03142.12956.58764.20298.52626.20903.51324.92107.87816.74493.1529.	112
112	2.03672.05671.56406.76856.29265.27114.78973.36782.29707.46423.50455.6.	113
113	2.04201.48002.54095.08045.64332.02319.84731.44797.32967.91785.9.	114
114	2.04731.17378.62884.12274.01825.73631.43628.33705.32445.71326.37222.11155.44.	115
115	2.05261.69472.293169.43686.90720.55337.30278.84609.93428.77687.7450.	116
116	2.05791.19589.96574.09233.73676.14811.29897.28370.50561.90992.78552.9487.	117
117	2.06321.21218.76046.03397.80764.22623.03355.51101.81313.92871.95443.3644.	118
118	2.06851.64711.47853.27998.40759.09920.46753.44613.38401.33779.3751.	119
119	2.07381.61031.28822.01456.05302.58758.46988.77816.83269.13492.66650.	120
120	2.07911.22528.20309.79893.16957.03826.97177.05861.43102.72900.67852.8523.	121
121	2.08441.25767.85748.69184.51028.97476.76112.29249.22479.52322.72291.88769.	122
122	2.08971.28103.33672.77777.53765.50435.98270.61031.84957.36134.17821.30406.	123
123	2.09501.28555.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	124
124	2.09501.28555.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	125
125	2.10031.29285.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	126
126	2.10561.29815.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	127
127	2.11091.30345.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	128
128	2.11621.30875.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	129
129	2.12151.31405.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	130
130	2.12681.31935.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	131
131	2.13211.32465.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	132
132	2.13741.32995.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	133
133	2.14271.33525.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	134
134	2.14801.34055.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	135
135	2.15331.34585.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	136
136	2.15861.35115.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	137
137	2.16391.35645.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	138
138	2.16921.36175.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	139
139	2.17451.36705.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	140
140	2.17981.37235.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	141
141	2.18511.37765.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	142
142	2.19041.38295.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	143
143	2.19571.38825.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	144
144	2.20101.39355.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	145
145	2.20631.39885.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	146
146	2.21161.40415.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	147
147	2.21691.40945.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	148
148	2.22221.41475.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	149
149	2.22751.42005.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	150
150	2.23281.42535.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	151
151	2.23811.43065.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	152
152	2.24341.43595.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	153
153	2.24871.44125.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	154
154	2.25401.44655.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	155
155	2.25931.45185.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	156
156	2.26461.45715.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	157
157	2.26991.46245.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	158
158	2.27521.46775.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	159
159	2.28051.47305.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	160
160	2.28581.47835.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	161
161	2.29111.48365.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	162
162	2.29641.48895.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	163
163	2.30171.49425.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	164
164	2.30701.49955.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	165
165	2.31231.50485.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	166
166	2.31761.51015.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	167
167	2.32291.51545.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	168
168	2.32821.52075.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	169
169	2.33351.52605.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	170
170	2.33881.53135.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	171
171	2.34411.53665.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	172
172	2.34941.54195.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	173
173	2.35471.54725.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	174
174	2.36001.55255.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	175
175	2.36531.55785.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	176
176	2.37061.56315.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	177
177	2.37591.56845.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	178
178	2.38121.57375.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	179
179	2.38651.57905.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	180
180	2.39181.58435.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	181
181	2.39711.58965.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	182
182	2.40241.59495.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	183
183	2.40771.60025.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	184
184	2.41301.60555.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	185
185	2.41831.61085.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	186
186	2.42361.61615.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	187
187	2.42891.62145.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	188
188	2.43421.62675.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	189
189	2.43951.63205.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	190
190	2.44481.63735.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	191
191	2.45011.64265.73090.07773.76059.72386.46353.31082.1097521601.94404.8860.	192
192	2.45541.64795.73090.07773.76059.72386.46353.31082.1097521601.94	

30 *An Easy and Compendious Method of making Logarithms.*

The next Work is to shew, how Mr. *Briggs's* Logarithms above 200 are immediately compos'd, for which several Rules may be laid down : That which is most general and easy, and comes nearest the former, for the Natural Logarithms, is this :

- I. Let the Number, whose Logarithm is sought, and either of the other two Numbers next it, greater or less by an Unite (the Logarithms of one or both of which are given) be made an improper Fraction ; to the Denominator doubled, add 1.0, that shall be the first Divisor, and the Square of that must divide the first Quotient, and all the rest : The Dividend must always be the Reciprocal of the Natural Logarithm of $10 = 86858.89638.06503.65530.22578.37833. \&c.$ All the rest must be as is directed for making Natural Logarithms ; only the Sum of the Series, or Logarithm of the Fraction, when the given Number is less than that sought, must be added to its Logarithm ; when greater, subtract from it. *Ex. Gr.*

The Series to make *Briggs's* Log. of 251, take 250, the next less, to make the Fraction $\frac{251}{250}$, whose Logarithm is first sought $2 \times 250 + 1 = 501$ is the first Divisor, the Square thereof $= 251001$ divides all the rest, as in the following Operation.

501)	86858.89638.06503.65530.225784	The Odd Powers divided by 1, 3, 5, &c
(	.00173.37105.06599.80769.521405	.00173.37105.06599.80769.521409
251001)	1733 &c. (69.07185.65503.646478	3) 23.02395.21834.548826
251001)	6907185 &c. (27.51855.831266	5) 5.50371.166253
251001)	2751855831266 (10.963525	7) 1.566218
251001)	10963525 (44	9) 5
	$\frac{251}{250} = .00173.37128.09000.52970.802711$	
	$250 = 2.39794.00086.72037.60957.252221$	
	$251 = 2.39967.37214.81038.13234.054932$	

II. The second Method may be this : If two Numbers, next that whose Log. is sought (either one greater, and the other less ; or both greater, or both less) have known Logarithms, the Square of the middle Number shall be the Numerator of the improper Fraction ; the Product of the other two, on each side, the Denominator.

For Example,, Take 239, its Square 57121, and the Product of 238 and 240 = 57120 ; whence the Fraction $\frac{57121}{57120}$, and their Sum 114241, the first Divisor, and its Square 13051006081 Divisor for all the rest, as in the following Series.

114241)	86858.89638.06503.65530.225784	The Odd Powers divided by 1, 3-
(	.00000.76031.28157.19841.086215	.00000.76031.28157.19841.086215
13051006081)	7603128 &c. (58257.0271591	3) 19419.009053
	The Sum is <i>Briggs's</i> Log. of $\frac{57121}{57120} = .00000.76031.28157.39260.095268$	

If the Log. of the middle Number be sought, the Log. of the Fraction, added to the Log. of the greatest and least, will be the Log. of the Square of the middle Number; the half of which is its Logarithm, as in the following Work.

24 x 10 = 240	(1) = 240 = 2.38021.12417.11606.02293.624459
34 x 7 = 238	(2) = 238 = 2.37657.69570.56511.95446.612505
240 x 238 = 57120	(3) = 57120 = 4.75678.81987.68117.97740.236964
	(4) = $\frac{57120}{2} = 28560 = 4.45678.81987.68117.97740.236964$
239 x 239 = 57121	(5) = 57121 = 4.75679.58018.96275.37000.332232
half the Log. of 57121 = Log. of 239	= 2.37839.79009.48137.68500.166116

If the Log. of the greatest or least Number be sought, subtract the Log. of the Fraction from the Log. of the Square of the middle Number, the Remainder shall be the Log. of the Product of the other two; from which subtract the Log. of the known Number, the Remainder will be the Log. of the other.

Suppose the Log. of 239, 240 given, and 238 sought, then (5) — (4) = (3) — (1) = 2; if the Log. of 239, 238 given, and 240 sought, then (5) — (4) = (3) — (2) = (1).

III. The third Method may be: Find such a Product of the Number, (whose Logarithm is sought) whose Factors have known Logarithms, which shall be greater or less by an Unite than another Number composed of such as have known Logarithms, these two shall make the Fraction whose Logarithms is to be directly sought, according to the prescriptions in the former, and the Logarithm desired deduc'd thence, as in the first Method. For Instance, Take 227, which drawn into 27 and 31, produces 189999, the Fraction is $\frac{189999}{144399240001}$, the first Divisor $2 \times 189999 + 1 = 379999$, the Square of that 144399240001 divides all the rest.

379999)36858.89638.06503.65530.225784	The Odd Powers divided by 1, 3,
(00000.22857.66446.24460.499976	00000.22857.66446.24460.499976
144399240001)2285766 &c.(1582.949077	3) 527.649692

$\frac{189999}{144399240001} =$	00000.22857.66446.24988.149668.
190000 =	5.27875.36009.52828.96153.633147
189999 =	5.27875.13151.86382.71165.483679
27 x 31 = 837	2.92272.54579.93259.99155.178781
227 =	2.35602.58571.93122.72700.304898

Another Instance shall be to Raise the Logarithm of 211:

211x211x211x211 = 1982119441	} The Sum 3964238881, which
60x28x53x113x197 = 1982119440	
at the first Division Quotes the Log. of the Fraction to 29 places:	
3964238881)868588963806503 &c.	(0.00000.00002.19106.11687.78080.3573
60x28x53x113x197 = 1982119440	= 9.29712.98209.71664.54944.84244.8356
The 4th Power of 211 = 1982119441 = 9.29712.98211.90770.66032.62325.1969	
$\frac{1}{4}$ of which is the Log. of 211 = 2.32428.24552.97692.66508.15581.2992	

This

32 *An Easy and Compendious Method for making Logarithms.*

This last Method may ordinarily be render'd as Universal as the first, and more Exact and Expedition than the second; all the difficulty being in finding out proper Numbers. The Method I commonly us'd, which rarely fails, is here subjoin'd; better understood by the Performance, than express'd.

For $223 \times 7 = 1561$	Again, $3 \times 223 = 669$
$8 = 1784$	$1 = 223$
$223 \times 87 = 19401$	$223 \text{ in } 13 = 2899$
$2 = 446$	$7 = 1561$
$223 \times (7 \times 11) = 287 = 64901$	$131 \times 23713 = 158999$

For $229 (1 = 229$	in, $9 = 2061$
$3 = 687$	$6 = 1374$
$31 = 7099$	$69 = 15801$
$1 = 229$	$8 = 1832$
$131 = 29999$	$869 = 199001$
	$9 = 2061$

$$71 \times 139 = 9869 \quad 2260001$$

Here two convenient Fractions are discovered, for the making Logarithms of

{	$223 \frac{64001}{64090} = 7 \times 41 \times 223$	and $\frac{159000}{158999} = 100 \times 53 \times 3$
	$229 \frac{30000}{29999} = 131 \times 229$	and $\frac{2260001}{2260000} = 71 \times 139 \times 229$
		$\frac{2260000}{2260000} = 2 \times 113 \times 1000$

Another Expedient for finding Numbers, accommodate to the Third Rule or Method for making Briggs's Logarithms.

Find such a Product of the Number, whose Logarithm is sought (the greater the better) which hath two Numbers nearest it, on both or either side, compos'd of such whose Logarithms are known; Square the Middle, that shall be the Numerator; the Product of the two on either side, is the Denominator of the Fraction; the Logarithm whereof is to be made according to the Rules there laid down, only observing in which the sought Number is ingredient; if in the Numerator, the Logarithm of the Fraction must be added to the Logarithm of the Denominator; but if in the Denominator, it must be subtracted from the Logarithm of the Numerator, &c.

Convenient Fractions found for Raising the Logarithms of 211, 223, 227, 229, 233, 239, 241, 251, and 257.

Of 211	$211 \times 11 = 2321$	}	$5387041 = 121 \times 211 \times 211$
$2322 = 54 \times 43$	$80 \times 29 \quad 2320$		$5387040 = 80 \times 54 \times 29 \times 43$
Of 223	$100 \times 29 = 2900$	}	$8404201 = 169 \times 223 \times 223$
$2898 = 14 \times 9 \times 23$	$223 \times 13 = 2899$		$8404200 = 2900 \times 126 \times 23$

Of

Of 227 $20 \times 193 = 3860$ } $14899600 = 400 \times 193 \times 193$
 $3861 = 27 \times 163, 17 \times 227 = 3859$ } $14899599 = 27 \times 143 \times 17 \times 227$
 Of 229 $229 \times 31 = 7099$ } $50395801 = 31 \times 31 \times 229 \times 229$
 $7100 = 71 \times 100, 14 \times 39 \times 13 = 7098$ } $50395800 = 100 \times 71 \times 42 \times 13 \times 13$
 Of 233 $20 \times 19 \times 29 = 11020$ } $121440400 = 400 \times 19 \times 19 \times 29 \times 29$
 $11021 = 193 \times 197, 233 \times 42 = 11019$ } $121440399 = 43 \times 103 \times 107 \times 233$
 Of 239 $700 \times 14 = 9800$ } $96040000 = 49 \times 49 \times 400 \times 20$
 $9801 = 121 \times 81, 239 \times 41 = 9799$ } $96039999 = 81 \times 121 \times 41 \times 239$
 Of 241 $241 \times 41 = 9881$ } $97634161 = 41 \times 41 \times 241 \times 241$
 $9882 = 9 \times 18 \times 61, 520 \times 19 = 9880$ } $97634160 = 40 \times 13 \times 19 \times 9 \times 18 \times 61$
 Of 251 $240 \times 137 = 32880$ } $1081094400 = 240 \times 240 \times 137 \times 137$
 $32881 = 251 \times 131, 11 \times 49 \times 61 = 32879$ } $1081094399 = 11 \times 49 \times 61 \times 131 \times 251$
 Of 257 $257 \times 47 = 12079$ } $145902241 = 47 \times 47 \times 257 \times 257$
 $12080 = 80 \times 151, 18 \times 11 \times 61 = 12078$ } $145902240 = 80 \times 18 \times 11 \times 61 \times 151$

And for a Proof of the Logarithms of 251 and 257,

$43 \times 251 = 10793$ } $116488849 = 43 \times 43 \times 251 \times 251$
 $10794 = 257 \times 42, 8 \times 19 \times 71 = 10792$ } $116488848 = 8 \times 19 \times 71 \times 42 \times 257$
 The like Expedients, I presume, may be found for any other Primes.

Another different Method of making Logarithms, communicated by Mr. Abr. Sharp, derived from Dr. Wallis's Illustration of Mercator's Quadrature of the Hyperbola, in Philos. Transactions, N^o 38. wherein the greatest part of the Work, (viz. Raising all the Powers) is perform'd by Multiplication, being easier and of quicker dispatch than Division.

LET any three Numbers in Arithmetical Progression be propos'd, the least = A, the middle = B, the greatest = E.

If the Logarithm of any one of these be given, the Logarithms of the other two may be thus obtained, by an infinite Series.

I. Let the first Term of the Series be $C = \frac{B-A}{B} = \frac{E-B}{B} = \frac{E-A}{E+A}$

II. The Series = $\frac{C}{1} + \frac{C^2}{2} + \frac{C^3}{3} + \frac{C^4}{4} + \frac{C^5}{5} + \frac{C^6}{6} + \frac{C^7}{7} + \frac{C^8}{8} + \frac{C^9}{9} + \frac{C^{10}}{10} + \text{&c.}$

III. The Sum of all the Odd Powers (each being divided by its proper Index) viz. $\frac{C}{1} + \frac{C^3}{3} + \frac{C^5}{5} + \frac{C^7}{7} + \text{&c.} = Z$ is the Hyperbolic Logarithm of $\sqrt{\frac{E}{A}}$.

IV. The

IV. The Sum of the Even Powers, (each divided by its Index)
viz. $\frac{C^2}{2} + \frac{C^4}{4} + \frac{C^6}{6} + \frac{C^8}{8} + \frac{C^{10}}{10} + \&c. = X$ is the Hyperbolick Logarithm of $\sqrt{\frac{BB}{EA}}$.

V. The Sum of all the Powers, or $Z + X$ is the Hyperbolick Logarithm of $\frac{B}{A}$.

VI. The Difference of the Odd and Even Powers, or $Z - X$ is the Hyperbolick Logarithm of $\frac{E}{B}$.

If B be equal to 1, 10, 100, 1000, 10000, &c. all the Powers will be raised by the Multiplication of C continually for the Hyperbolick Logarithms; or of C into the Number 0.43429448, &c. and into the several Products for *Briggs's* Logarithms; all which Powers must be divided by their respective Indices.

This Method hath this peculiar Advantage above others, That a Series once rais'd for the lowest Numbers in that Progression, will generally serve for finding the Logarithms of Eight or more Prime Numbers, without any more Labour than Addition or Subtraction; therefore is undoubtedly the most Expeditious for Composing a Table, especially for making the Logarithms of the first Primes, tho possibly not for raising a single Logarithm.

The Logarithms of the first Primes, *viz.* 2, 3, 5, &c. must unavoidably be the *Hyperbolick* or *Natural*, since in all Methods of raising Logarithms, these offer themselves first; and from hence must be deduced the Number .43429448, &c. which reduces them to *Briggs's*: Amongst Variety of Expedients for effecting this, here fix upon one that is easy, and capable of a competent Exactness, by Three Series, since fewer will not perform it to a tolerable Accuracy, without great Tedioufness and Difficulty.

The *First* Three Numbers are $96=A$, $100=B$, $104=E$; then $\frac{B-A}{B} = \frac{100-96}{100} = \frac{4}{100}$, or $\frac{E-B}{B} = \frac{100-104}{100} = \frac{4}{100}$, or $\frac{E-A}{E+A} = \frac{104-96}{200} = \frac{8}{200} = \frac{4}{100} = C$: So that .04 = C is the First Term, whose Powers, &c. make the First Series.

The *Second* are $92=A$, $100=B$, $108=E$, and $\frac{B-A}{B} = \frac{8}{100} = .08 = C$.

The *Third* are $975=A$, $1000=B$, $1025=E$, and $\frac{B-A}{B} = \frac{25}{1000} = .025 = C$, the First Term of the Third Series.

A short

A short and easy Method of raising the Logarithms of the first Prime Numbers with great Exactness.

The Ist Series.

$$\begin{aligned} C &= 04 \\ C^2 &= 16 \\ C^3 &= 64 \\ C^4 &= 256 \\ C^5 &= 1024 \\ C^6 &= 4096 \\ C^7 &= 16384 \\ C^8 &= 55536 \\ C^9 &= 262144 \\ C^{10} &= 1048576 \\ C^{11} &= 4194304 \\ C^{12} &= 16777216 \\ C^{13} &= 57108864 \\ C^{14} &= 268435456 \\ C^{15} &= 1073741824 \\ C^{16} &= 4294967040 \\ C^{17} &= 17179869184 \end{aligned}$$

$$\begin{aligned} C &= 04 \\ \frac{1}{2}C^1 &= 20213333333333333333 \\ \frac{1}{2}C^2 &= 2048 \\ \frac{1}{2}C^3 &= 2340571428571428 \\ \frac{1}{2}C^4 &= 29127111111111 \\ \frac{1}{2}C^5 &= 381300364 \\ \frac{1}{2}C^6 &= 516222 \\ \frac{1}{2}C^7 &= 716 \\ \frac{1}{2}C^8 &= 1 \end{aligned}$$

$$\begin{aligned} Z &= \sqrt{\frac{1}{2}C^2} = 0400213538367682129118890 \\ \frac{1}{2}C^3 &= 2008 \\ \frac{1}{2}C^4 &= 0064 \\ \frac{1}{2}C^5 &= 068266666666666667 \\ \frac{1}{2}C^6 &= 8192 \\ \frac{1}{2}C^7 &= 1048576 \\ \frac{1}{2}C^8 &= 13981013 \\ \frac{1}{2}C^9 &= 19174 \\ \frac{1}{2}C^{10} &= 27 \end{aligned}$$

$$\begin{aligned} X &= \sqrt{\frac{1}{2}C^2} = 0008006406834869166426881 \\ Z+X &= 0408219945202551295545771 \\ Z-X &= 0392207131532812962692005 \end{aligned}$$

The IId Series.

$$\begin{aligned} C &= 08 \\ C^2 &= 64 \\ C^3 &= 512 \\ C^4 &= 4096 \\ C^5 &= 32768 \\ C^6 &= 262144 \\ C^7 &= 2097152 \\ C^8 &= 16777216 \\ C^9 &= 134217728 \\ C^{10} &= 1073741824 \\ C^{11} &= 8589934592 \\ C^{12} &= 68719476736 \\ C^{13} &= 54975581389 \\ C^{14} &= 4398046511 \\ C^{15} &= 351843721 \\ C^{16} &= 28147498 \\ C^{17} &= 2251800 \\ C^{18} &= 180144 \\ C^{19} &= 14412 \\ C^{20} &= 1153 \\ C^{21} &= 92 \\ C^{22} &= 7 \end{aligned}$$

$$\begin{aligned} C &= 08 \\ \frac{1}{2}C^1 &= 217066666666666666667 \\ \frac{1}{2}C^2 &= 65536 \\ \frac{1}{2}C^3 &= 29959314285714286 \\ \frac{1}{2}C^4 &= 149130808888889 \\ \frac{1}{2}C^5 &= 780963144727 \\ \frac{1}{2}C^6 &= 4228890876 \\ \frac{1}{2}C^7 &= 23456248 \\ \frac{1}{2}C^8 &= 132459 \\ \frac{1}{2}C^9 &= 759 \\ \frac{1}{2}C^{10} &= 4 \end{aligned}$$

$$\begin{aligned} Z &= \sqrt{\frac{1}{2}C^2} = 0801713250375896916894914 \\ \frac{1}{2}C^3 &= 2032 \\ \frac{1}{2}C^4 &= 1024 \\ \frac{1}{2}C^5 &= 436906666666666667 \\ \frac{1}{2}C^6 &= 2097152 \\ \frac{1}{2}C^7 &= 1073741824 \\ \frac{1}{2}C^8 &= 7266230613 \\ \frac{1}{2}C^9 &= 314146179 \\ \frac{1}{2}C^{10} &= 1759219 \\ \frac{1}{2}C^{11} &= 10008 \\ \frac{1}{2}C^{12} &= 58 \end{aligned}$$

$$\begin{aligned} X &= \sqrt{\frac{1}{2}C^2} = 0032102839014613667052744 \\ Z+X &= 0833816089390510583947658 \\ Z-X &= 0769610411361283249842170 \end{aligned}$$

The III^d Series.

$$\begin{aligned}
 C &= 025 \\
 C^2 &= 625 \\
 C^3 &= 15625 \\
 C^4 &= 390625 \\
 C^5 &= 9765625 \\
 C^6 &= 244140625 \\
 C^7 &= 6103515625 \\
 C^8 &= 152587890625 \\
 C^9 &= 38146972656 \\
 C^{10} &= 953674316 \\
 C^{11} &= 23841858 \\
 C^{12} &= 596046 \\
 C^{13} &= 14901 \\
 C^{14} &= 377
 \end{aligned}$$

$$\begin{aligned}
 \frac{1}{2}C^2 &= 00520833333333333333 \\
 \frac{1}{3}C^3 &= 1953125 \\
 \frac{1}{4}C^4 &= 8719308035714 \\
 \frac{1}{5}C^5 &= 4238552517 \\
 \frac{1}{6}C^6 &= 2167442 \\
 \frac{1}{7}C^7 &= 1147
 \end{aligned}$$

$$Z = \sqrt{\frac{1}{2}C^2} = 025005210 \quad 873306882 \quad 02152$$

$$\begin{aligned}
 \frac{1}{2}C^2 &= 0003125 \\
 \frac{1}{4}C^4 &= 7765625 \\
 \frac{1}{8}C^8 &= 106901041666667 \\
 \frac{1}{16}C^{16} &= 190734863281 \\
 \frac{1}{32}C^{32} &= 25367432 \\
 \frac{1}{64}C^{64} &= 19670 \\
 \frac{1}{128}C^{128} &= 27
 \end{aligned}$$

$$\begin{aligned}
 X &= \sqrt{\frac{1}{2}C^2} = 0003125975969501871947077 \\
 Z+X &= 0253178079842898754037230 \\
 Z-X &= 0245926125903715010143076
 \end{aligned}$$

$$\begin{aligned}
 1 &= a = \frac{1}{2} \\
 2 &= b = \frac{1}{4} \\
 3 &= c = \frac{1}{8} \\
 4 &= d = \frac{1}{16} \\
 5 &= 1 + 2 = a + b = \frac{3}{4} \\
 6 &= 3 + 4 = c + d = \frac{5}{8} \\
 7 &= 5 + 6 = a + b + c + d = \frac{7}{8} \\
 8 &= 1 + 7 = 2a + b + c + d = \frac{9}{8} \\
 9 &= 7 + 8 = 3a + 2b + 2c + 2d = \frac{11}{8} \\
 10 &= 9 + 5 = 2a + b + 2c + 2d = \frac{13}{8} \\
 11 &= 7 + 10 = 3a + 3b + 4c + 4d = \frac{15}{8} \text{ Log. } z = \\
 12 &= 9 + 11 = \text{Log. } 3 = \\
 13 &= 3 \times 11 = \text{Log. } 8 = \\
 14 &= 8 + 13 = \text{Log. } 10 =
 \end{aligned}$$

$$\begin{aligned}
 -54684.36420.76011.01488.62877.29760.33327.97096.75726.09677.35248.03 \\
 \text{The Reciprocal whereof is} \\
 18216.60508.22943.97005.80366.65661.14453.78316.1365
 \end{aligned}$$

By these Three Series, the Logarithms of all the Primes under 29, except 11, may be made, and several above: For the Logarithm of 7 is got from (II^d) 1008 = $12 \times 12 \times 7$; of 13 from (Ist) 104 = 8×13 , or from (III^d) 975 = 75×13 ; of 17 from (Ist) 9996 = $6 \times 7 \times 14 \times 17$; of 19 from (III^d) 9975 = $3 \times 7 \times 25 \times 19$; of 23 from (II^d) 92 = 4×23 ; of 31 from (II^d) 992 = 32×31 ; of 41 from (III^d) 1025 = 25×41 , &c. The Log. of 11 is had from a Series of ,01, for $99 = 9 \times 11$, or from ,001 for $1001 = 7 \times 13 \times 11$; the Log. of 29 is got from a Series of ,0005 for $10005 = 3 \times 5 \times 23 \times 29$; and 37 is had from ,001 for $999 = 27 \times 37$, &c.

Expedients of this Kind I have us'd, both for finding and proving the Logarithms of all Primes under 1100, and many above.

$$\begin{aligned}
 .04082.19945.20255.12955.45771 \\
 .07696.10411.36128 \quad 32498.42170 \\
 .03921.07131.53281.29626.92009 \\
 .08531.78079.84289.87540.37230 \\
 .11778.30356.56383.45453.87941 \\
 .06453.85211.37571.17167.29239 \\
 .18232.15567.93954.62621.17180 \\
 .22314.35513.14209.75576.62951 \\
 .40546.51081.08164.38197.80131 \\
 .28758.20724.51780.92743.92190 \\
 .69314.71805.59945.30941.72321 \\
 .109861.22886.68109.69139.52452 \\
 .207944.15416.79835.92825.16964 \\
 .230258.00299.94045.68401.79914 \\
 -54684.36420.76011.01488.62877.29760.33327.97096.75726.09677.35248.03 \\
 43429.44819 \quad 03251.82765.11285-
 \end{aligned}$$

I shall

I shall here offer one of the Three Expedients, whereby these first Primes, together with many others, were computed to the Exactness of 82 places; which was by Six Series, (whereof .008 was the lowest) whence the Logarithms of these Ten Fractions were made; the following Operations being suppos'd to be perform'd by Logarithms.

$$\begin{aligned}
 (1) \quad & \frac{1008}{1000} = 7 \times 9 \times 16 & (2) \quad \frac{1000}{992} = 32 \times 31 & (3) \quad \frac{1000125}{1000000} = 63 \times 125 \times 127 \\
 (4) \quad & \frac{1000000}{999998} = 52 \times 127 \times 127 & (5) \quad \frac{100000}{9996} = 14 \times 42 \times 17 & (6) \quad \frac{100016}{100000} = 112 \times 19 \times 47 \\
 (7) \quad & \frac{10000}{9975} = 15 \times 35 \times 19 & (8) \quad \frac{100000}{99875} = 125 \times 17 \times 47 & (9) \quad \frac{100000}{99975} = 75 \times 31 \times 43 \\
 (10) \quad & \frac{10000008}{1000000} = 72 \times 17 \times 19 \times 43 & (11) \quad \frac{1008}{1000} + \frac{1008}{1000} + \frac{1000}{992} = 3969 = 63 \times 63 \\
 (12) \quad & \frac{1000125}{1000000} + \frac{1000125}{1000000} + \frac{1000000}{999998} = 3969 = 63 \times 63 & (13) \quad \frac{3969}{3975} - \frac{3969}{3968} = \\
 (14) \quad & \frac{1008}{1000} + \frac{1008}{1000} + \frac{10000}{9996} = 432 = 16 \times 27 & (15) \quad \frac{100016}{100000} + \frac{100000}{99875} + \\
 (16) \quad & \frac{432}{445} - \frac{256}{255} = \frac{81}{80} & (17) \quad \frac{100000}{99975} + \frac{10000008}{1000000} = \\
 (18) \quad & \frac{1000}{992} - \frac{3876}{3875} = \frac{15625}{15504} = 125 \times 125 & (19) \quad \frac{15625}{15504} = \\
 (20) \quad & \frac{77824}{9975} - \frac{65536}{65536} = 256 \times 256 & (21) \quad \frac{128}{125} + \frac{128}{125} + \frac{65536}{65536} = 21 \\
 (22) \quad & \frac{21}{20} - \frac{1008}{1000} = \frac{25}{24} & (23) \quad \frac{128}{125} + \frac{25}{24} = \frac{16}{15} & (24) \quad \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8} \text{ \&c. as in the former Operations.}
 \end{aligned}$$

It remains to Exemplify in the making *Briggs's* Logarithms immediately by this Method: Take the Three Numbers in the 11d Series, *viz.* 92=A, 100=B, 108=E, and $\frac{B-A}{B} = \frac{8}{100} = .08 = C$, by which multiplying the Reciprocal of the Hyperbolic Logarithm of 10, *viz.* 43429448, &c. = N continually, and dividing the respective Powers by their proper Indices, the following Series are made.

$$C \times N = 43429, \text{ \&c.}$$

M. BRIGG'S LOGARITHMS for all Numbers, from 1 to 100.
 Calculated by that Ingenious Gentleman, and Indefatigable Mathematician,

1	0.00000.00000.00000.00000.00000.00000.00000.00000.00000.00000	1
2	0.30103.99913.63981.19521.37388.94724.49302.67681.8.881.46210.8431.104275	2
3	0.47712.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.29866	3
4	0.60206.99913.27062.39042.74777.89448.98605.34363.79762.92421.70826.208549	4
5	0.69897.00043.16018.80478.62611.04275.90697.32318.10118.53789.14586.895725	5
6	0.77815.12503.83643.63250.87667.97979.60833.55683.18745.65280.44061.402931	6
7	0.84509.80400.14256.683071.22162.58572.63619.34835.72396.32396.54065.036350	7
8	0.90308.99869.91943.98464.12166.84173.47908.03045.69644.38632.56239.312824	8
9	0.95424.25094.30324.87459.00558.06510.23051.84002.57720.38139.17296.597313	9
10	1.00000.00000.00000.00000.00000.00000.00000.00000.00000.00000	10
11	1.04139.26851.58125.04075.01999.71213.02424.17067.02190.46649.30845.965390	11
12	1.07918.12460.47624.87772.25056.92704.10136.27365.08627.11491.22947.507206	12
13	1.11394.33523.06836.76920.65051.57942.32843.08297.29185.38706.82718.011910	13
14	1.14612.80336.78238.02592.59551.53317.12922.02517.62277.78607.39478.146624	14
15	1.17609.12500.55681.24208.12890.08530.62728.34319.39484.72818.73235.194282	15
16	1.20411.99826.55924.78085.45555.78897.97210.70727.55251.84843.41652.417098	16
17	1.23044.89213.78273.92854.01698.94328.33773.00075.67378.42504.65973.803685	17
18	1.25527.25051.03306.06980.37947.01234.71236.4.51684.47609.84310.02709.708587	18
19	1.27875.36009.52828.96153.63324.75756.92931.79111.29337.39449.79589.068189	19
20	1.30102.99966.63981.19521.37388.94724.49302.67681.8.881.46210.8431.104275	20
21	1.32221.92947.33919.26800.72441.61847.75150.26837.01260.51866.12713.335006	21
22	1.34241.26808.22206.23196.39388.69670.51268.84748.52071.92856.16549.069665	22
23	1.36172.78360.17592.87886.77771.12251.18954.96975.11034.33609.61882.76	23
24	1.38021.12417.11606.02293.62445.87428.59438.95046.98508.57702.14887.611480	24
25	1.39794.00086.72037.60957.25222.10551.01394.64636.20237.07578.29873.92451	25
26	1.41497.33479.70817.96442.02440.52666.82145.75799.19069.84917.61813.116184	26
27	1.43136.37641.58987.31188.50837.09767.34592.76003.86592.57208.75944.89569	27
28	1.44715.80313.42219.22113.96940.48041.62224.70199.31529.24818.24891.244899	28
29	1.46239.79978.98966.08733.28467.62969.25499.12422.94417.88715.38410	29
30	1.47712.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.29866	30
31	1.49136.16938.31272.67966.67041.00118.41572.23037.01558.30418.4655	31
32	1.50514.99782.19905.97606.86944.73622.46513.38400.49407.31054.27065.521373	32
33	1.51851.39398.77887.47804.52278.74498.13955.09068.31054.65714.89494.264047	33
34	1.53147.89170.42255.12375.39087.89052.83005.67757.57259.88785.69886.907999	34
35	1.54406.80443.50275.63549.84773.63868.14316.67153.82514.86195.48631.992075	35
36	1.55630.25007.62728.76501.75335.95959.21667.19366.37491.30560.88122.805862	36
37	1.56820.17240.66904.99680.84506.89539.12944.79829.29090.16631.25466.176799	37
38	1.57978.35966.16810.15675.00723.70481.42234.47193.19218.85660.61402.172463	38
39	1.59106.46070.26499.20650.15330.61197.44374.00298.57776.41366.310566	39
40	1.60206.99913.27062.39042.74777.89448.98605.35363.79762.92421.70826.208549	40
41	1.61278.38467.19735.49450.94118.49968.18079.95305.13633.83368.708	41
42	1.62324.92903.97900.46322.09830.56572.24452.94518.91141.97676.98126.439281	42
43	1.63346.84955.79486.52640.50881.53229.22215.88087.74884.38009.3416	43
44	1.64344.26764.86187.43117.76777.60692.20102.9.92430.81953.39067.01772.173939	44
45	1.65321.25127.55242.67937.63166.11785.73759.16320.67846.91928.31883.493038	45
46	1.66275.78316.81574.07408.15160.06975.68257.64657.00915.79820.47295.8503	46
47	1.67209.78579.35717.46441.42193.99449.20064.01598.03908.42994.78270.373294	47
48	1.68124.12373.75587.21814.99824.82153.08741.61728.88390.03913.00320.715755	48
49	1.69019.60800.28513.66142.44325.17185.27238.69671.44752.64793.08130.072699	49
50	1.69897.00043.16018.80478.62611.04275.90697.32318.10118.53789.14586.895725	50
51	1.70757.01760.97950.39583.51977.97813.45233.92076.96242.61574.22632.100341	51
52	1.71600.32436.34799.15963.39829.47391.31448.43661.08951.31128.53544.230459	52
53	1.72427.58696.00789.04563.29922.91627.25694.26955.02401.39493.77755	53
54	1.73239.39598.22968.50709.88226.04489.83895.43685.76474.03419.061358.000244	54
55	1.74026.26804.94243.67453.64610.76518.53212.49385.12309.00434.45532.901165	55
56	1.74818.80270.0200.41635.34329.42766.11527.37881.42040.71029.10304.349173	56
57	1.75587.48556.72491.39083.13613.79012.04462.71512.58201.68519.34677.366845	57
58	1.76342.78935.62937.28254.71856.76923.74801.80224.84299.34926.2282	58
59	1.77085.20116.42144.19026.06563.84535.14423.89267.44474.93076.6522	59
60	1.77815.12547.19662.43729.50279.03255.11530.92001.28864.19069.58648.29866	60

I shall subjoin another Instance for Variety, whereby the Convenience of this Method will be farther illustrated, though all be performed by Division. Let the Three Numbers be $1899 = 9 \times 211 = A$, $1900 = B$, $1901 = A$; then $\frac{B-A}{B} = \frac{1900-1899}{1900} = \frac{1}{1900} = C$, which Fraction must be multiply'd into $.434294$, &c. $= N$, or $.434294$, &c. dividedd continually by 1900, and the several Powers by their proper Indices, &c.
From this Series five or six useful Logarithms are obtain'd, Viz. 211, 1901, 227, 19001, 2111, and 27143.

$$\begin{aligned}
 1900) N &= 4342 \text{ \&c.} = .00022857604310697464613217 \\
 1900) 228576 \text{ \&c.} &= 12030318058261823481 \\
 1900) 120303 \text{ \&c.} &= 6331746346453591 \\
 1900) 633174 \text{ \&c.} &= 3332498077081 \\
 1900) 3332498 \text{ \&c.} &= 1753946356 \\
 1900) 175394 \text{ \&c.} &= 923130 \\
 1900) 923130 \text{ \&c.} &= 486 \\
 \hline
 1) 6391 \text{ \&c.} &= 2110582115484530 \\
 5) 17539 \text{ \&c.} &= 350789271 \\
 7) 486 &= 69 \\
 \hline
 1 = Z = \sqrt{\frac{1}{1900}} &= .00022857606411279930887087 \\
 2) 1203 \text{ \&c.} &= .00000006015159029130911740 \\
 4) 33324 \text{ \&c.} &= 833124519270 \\
 &= 61923130 = 152855 \\
 \hline
 2 = X = \sqrt{\frac{1}{190000}} &= .00000006015159862255584305 \\
 3 = Z + X = \frac{1}{1900} &= .00022863621581142186471952 \\
 4 = 19000 = 4 &= .27875360095282896153633347 \\
 5 = 4-3 = 1899 = 3 &= .27852496473701753967161395 \\
 6 = 9 = &= .95424250943932487459005581 \\
 7 = 5-6 = 211 &= 2.32428245529769266508155814 \\
 8 = 1-2 = Z-X = \frac{1}{1900} &= .00022851591261417675302822 \\
 9 = 4+8 = 1901 = 3 &= .27898211686544313828935569 \\
 19000) 4342 \text{ \&c.} &= .00022857604310697464613217 \\
 &= 2110582115484530 \\
 &= 350789271 \\
 \hline
 1 \quad Z = \sqrt{\frac{1}{190000}} &= .00002285760433180328580314 \\
 &= 60151590291309117 \\
 &= 83312452 \\
 \hline
 2 = X &= .00000000060151590374621569 \\
 3 = 1+2 = Z+X = \frac{1}{1900} &= .00002285820584770703201882 \\
 4 = 19000 = 4 &= .27875360095282896153633347 \\
 5 = 4-3 = 18999 = 4 &= .27873074274698125450431464 \\
 6 = 9 = &= .95424250943932487459005581 \\
 7 = 5-6 = 2111 = 3 &= 3.2448823330765637991425882 \\
 8 = 1-2 = Z-X &= .00002285700281589953958745 \\
 9 = 4+8 = 19001 = 4 &= .27877645795564486107593092 \\
 190007) 4342 \text{ \&c.} &= .000022857604310697464613217 \\
 &= 3) = 2110582115 \\
 \hline
 1 \quad Z = \sqrt{\frac{1}{190000}} &= .0000228576043109085228247 \\
 2) .0000000601515902913091 &= 83312452 \\
 4) &= 83312452 \\
 \hline
 2 \quad X &= .00000000060151590291422 \\
 3 = Z+X = \frac{1}{1900} &= .0000228576644624988149669 \\
 4 = 190007 = 5 &= .27875360095282896153633347 \\
 5 = 4-3 = 189999 = 5 &= .27875131518638271165483678 \\
 6 = 27X31 = 37 = 2 &= .92272545759325999155178761 \\
 7 = 5-6 = 227 = 2 &= 3.5602585719212272010204807 \\
 \hline
 Z-X = \frac{1}{190000} &= .00002285754415931823.6825 \\
 190000 = 5 &= .27875360095282896153633347 \\
 190001 = 5 &= .27875588670724489335940172 \\
 7 = &= 84509804001425683071221626 \\
 27143 = 4 &= 43365784669298805264718546 \\
 &= 185
 \end{aligned}$$

The Way to find convenient Numbers by which Logarithms may be made without any other Division than by the Indices of the Powers. If the Fraction be intended to begin with an Unit and Cyphers following, take such a Product of the Number proposed as begins with an Unit (and Cyphers if it may be) subtract such Products from that successively as begin with the same Figure, or the next less than that which immediately follows the Unit or Cyphers, subtracting this Factor always from the former, multiply'd by 10, 100, &c. till a convenient Number be found. If it be design'd to consist as much as may be of nines, choose such a Factor of the proposed Number as begins with, or is the nearest to nine, but less, add such Products to that successively, as will make the following Figures as near as possible nines, &c. Ex. gr.

Rank 1	Rank 2	Rank 3	Rank 4
for 251 in 4=1004	251x3=753	for 257 in 4=1028	257x3=771
subt. 1 251	9=2259	1=257	8=2056
21x1983=100149	39=9789	39=10023	38=9766
5=1255	8=2008	.08=2056	9=2313
5x757p=3985	1000235	398=99898	28x139=3892
9=2259	4=1004	1000244	389p=99973
39841p=10000091	3984=999984	167x233=38911	9=2313
	06=1506	10000127	1=257
6x23x2887=398406		3x1397p=38913	999987
		.05=1285	
		5x59x1319p=389105	29999985

Convenient Numbers found in	Rank 1	1004=4x251	The Powers of these are raised by continual Multiplication of	Rank 4	.004	The set of these Ranks (also the whole fourth Rank) are composed of greater Prime Numbers.
		1000			.00149	
		100149=21x19x251			.00102	
		100000			.00016	
	Rank 2	100000			.0023	
		99898=2x199x251			.000244	
		1000000			.0000127	
		999984=48x83x251				
	Rank 3	10023=39x257				
		10000				
		1000244=28x139x257				
		1000000				
		10000127=167x233x257				
		1000000				

Tho this Method seems to be more confined, not admitting of so great Variety as the other, yet at the beginning of the Table, where the other is deficient, 'tis most Commodious and Expeditious, and performs well to 1000 or upwards, and affords excellent Expeditors for many great Primes; but where it falls, there the other becomes more convenient, and performs with greater Ease, Expedition and Exactness than before: So that both together render this Art, *Viz. Logarithmetechnia* most compleat.

A E.

Altho' the Table of Logarithms to above 50 Figures to be continued no further then to 200, yet even these may be rendered serviceable for finding the *Logarithm* of almost any Natural Number to 50 Places, and the Natural Number answering to a Log. given to so many Figures, by the Assistance of the Series exhibited by Mr. Halley in Phi. Tran. N^o 216. herewith also Printed, as will appear by the following Examples.

Let the Log. of the Arch of 180^d 0' be sought, viz of 3.14159, 26535, 89793, 23846, 26433, 83279, 50288, 41971, 69399, 37510, 5821 seek out such a Product or Quotient hereof as has its first 5 or 6 Figures or more if it may be divisible by some of these Primes under 200, such will $\frac{1}{24}$ part hereof be, viz. the Arch of 7^d 3' 0" = 13089, 96938, 99574, 71826, 92768, 07636, 64595, 35082, 15391, 64062, 941 = *a*, the nearest Num. greater then, 130899 is 1309 = *b* = 71117, by the Log. of which the Log. of the other, i. e. of *a* is thus obtain'd.

$$\text{Put } \frac{b-a}{b+a} \text{ as in pag. 16} = \frac{x}{z} = \frac{00000.03061.00425.28173.07231.92103.35404.64917.84608.35937.05908}{2617.99093.89917.47182.69276.80763.66459.53508.21539.16406} = \frac{x}{z}$$

$$\frac{x}{z} = 00000.11692.16131.31889.13910.04335.04187.61524.72054.13287.38800 = \text{The first Term of the Series}$$

$$\frac{x^3}{z^3} = 1598.39604.27255.26451.26886.42362.9748.1461$$

$$\frac{x^5}{z^5} = 21.85113.46274.25090.74290.0620$$

$$\frac{x^7}{z^7} = 29871.95111.4924$$

$$\text{The Power of } \frac{x}{z}$$

The Powers of $\frac{x}{z}$ divided by the proper Indices.

$\frac{x}{z}$	.00000.11692.16131.31889.13910.04335.04187.61524.72054.13287.38800	
$\frac{x^3}{z^3}$	1598.39604.27255.26451.26886.42362.9748.1461	
$\frac{x^5}{z^5}$	21.85113.46274.25090.74290.0620	
$\frac{x^7}{z^7}$	29871.95111.4924	
$\frac{x^9}{z^9}$	53.27986.80908.50881.70896.21412.09918.27154	
$\frac{x^{11}}{z^{11}}$	43702.26925.48501.81484.80124	
$\frac{x^{13}}{z^{13}}$	426.74215.87846	
$\frac{x^{15}}{z^{15}}$	4	

$$\text{The Natural Logarithm of } \frac{b}{a} = 00000.11692.16131.31942.41896.85243.98771.59346.42394.78907.33928.$$

The

The Natural Logarithm of $\frac{b}{a}$ =

This being Multiplied by the reciprocal of the Natural Logarithm of 10 = .8685889638 and Produces

1 = Brigg's Logarithm of	$\frac{b}{a}$ =	.00000.10155.68227.96858.75624.23301.69298.10508.62149.41804.91075.
2 = The Logarithm of	.17	9 .23044.89213.78273.92854.01698.34328.33703.00075.67378.42504.63974.
3 = The Logarithm of	.77	9 .88649.07251.72481.87146.24162.29835.66043.51902.74586.79041.85011.
4 = $2d - 1 - 3d$ = the Logarithm of	$b = .1309$ =	9 .11693.90455.50755.80000.25861.24163.99740.51978.41965.21546.48985.
5 = $4th - 1$ = the Logarithm of .130899693899, &c. $\frac{b}{a}$ =	$\frac{b}{a}$ =	9 .11693.86309.82527.83141.50237.00862.30448.41469.79815.80341.57910.
which is the length of the Arch of 7d 30		
6 = Logarithm of	24 =	1 .38021.12417.11606.02293.62445.87428.59438.95046.98508.57702.14888.
7 = $5 - 6$ = the Log. of 3 14159265, &c. $\frac{b}{a}$ =		0 .49714.98726.94133.35435.12682.88290.89887.36516.78324.38043.72798.
the Arch of 180d, or the Semiperipherie.		
8 = Logarithms of 10800 =		4 .03342.37554.86949.70231.25614.99214.33198.11367.66355.49630.46771.
9 = $7 - 8$ = the Log. of .000290882, &c. $\frac{b}{a}$ =		6 .46372.61172.07184.15203.87067.89076.56689.25149.11968.88413.26027.
the length of the Arch of 0° 1'		

To find a Natural Number answering to Log. given, the whole extent of the Table, viz. to 50 Places or upwards. By the common Tables of Logarithms find seven or more Figures of the Natural Number, if (as in the following Instance) five or more of them be commensurable by some of the Primes under 200, no other need be sought, but if not, search out such a Product or Quotient thereof as may have the Log. of five or more of its first Figures composed of these Primes, by help of which, all the rest might be discovered by the Series exhibited by Mr. Halley in *Ph. Tra.* and here in pag. 20. Let the Example be to find out the Interest of one Pound for one Day, at the rate of six per Cent. per Annum compound Interest, which is to extract the Root of 1.06 taken as the 365th Power, i. e. $\sqrt[365]{1.06}$. The Log. of 1.06 is found by the Log. of 2 and 53 to be Log. 1.06 = 0.02530.58652.64770.24084.67311.86351.74961.94636.92282. 75704.63168. this being divided by 365. The Quotient is 0.000693311.37711.69928.99910.44346.16917.70396.86554.19933.43734. 7069 = L, the Natural Number found by the Tables nearest to it, but somewhat greater is 1.00016 = b, which being compounded of 7x16X19X47. is convenient enough.

The Sum of the Logarithms of these Numbers is the Logarithm of $\frac{b}{a}$ 1.00016. = 0.00006.94815.58728.03751.77247.12696.73825.86672.64357.99684.49976.8949. Out of which subtract the former Quotient = L 0.00006.93311.37711.69928.99910.44346.16917.70396.86554.19933.43734.7069. There will remain 1 =

This

Definitions.

Figure. 1.

A Chord or Subtense is a Right-Line connecting the Extremities of an Arc, as **FO** is the Chord of the Arcs **FE** **O** and **FDO**. A Sine ($= s$) is half the Chord, or a Right-Line drawn from one end of an Arc falling perpendicularly on the Diameter that terminates in the other end, **FR** is the Sine of the Arcs **FE**, **FD**. The Radius ($= r$) is the Semediameter, or Sine of $90^d = 1.000$. &c. the greatest of all Sines. The Co-sine ($= cs$) is that part of the Radius which is intercepted betwixt the Center and the Sine, or the Sine of the Complement, *i. e.* the difference of the Arc from a Quadrant or 90^d , as **CR** $=$ **FW** is the Co-sine of the Arc **FE**, or the Sine of its Complement **FB**, and also of its Supplement or Difference from a Semicircle **FA**; **E β** is the double of the Co-sine of the Arc **D β** or the Chord of its Supplement of **β E**, so **E γ** , **E δ** , **E ϵ** , **E η** , are the double Co-sines of the Arcs **D γ** , **D δ** , **D ϵ** , **D η** , The Versed Sine ($= v$) of any Arc less than 90^d , is the Excess of the Radius above the Co-sine of the Arc, as **ER** $=$ **EC** $-$ **CR** is the Versed Sine of the Arc **FB**. A Versed sine of an Arc greater than 90^d is the Sum of the Radius and the Co-sine, as **DR** $=$ **DC** $+$ **CR** is the Versed Sine of **FD**. The Secant of an Arc is a right Right-Line drawn from the Center through one end of the Arc till it meet with the Tangent, which is a Right-Line touching the Circle at the Extremity of that Diameter which cuts the other end of the Arc, so **CH** is the Secant, and **EH** the Tangent of the Arc **FE**. The Co-secant or Co-tangent of an Arc are the Secant or Tangent of the Complement of that Arc to 90 , so **CI** is the Co-secant, and **BI** the Co-tangent of the Arc **FE**.

A Method of computing the Natural Sine, Tangent or Secant of any Arch immediately, from the length of the Arch being given.

THE length of any Arch is readily obtain'd from the Proportion of the Diameter of the Circle to its Circumference exhibited by *Ven Ceulen*, since prolonged and confirm'd to 74 places by *Abraham Sharp*, which is as 1,00, &c. to 3.1415926535897932384626433832795028841971693993751058-209749445923078164052+. This Number being 11.0000, &c. is the just length of the Semicircle or Arch of 180^d .

180^d 00, whence any less Arch. is easily got by Division, $\frac{1}{180}$ part hereof = 0002908882086657215961539484614 + is the length of the Arch of 1' Minute, which being Multiply'd by the Number of Minutes contain'd in any other Arch serves readily to give it's length, hence by Mr. Newton's Series published by Mr. Halley in *Phi. Transf.* N^o 219. The Sine, Co-sine, Tangent, &c. of any Arch are had. If the length of the Arch be put=A, then is the Natural

$$\text{Sine} = A - \frac{1}{6} A^3 + \frac{1}{120} A^5 - \frac{1}{5040} A^7 + \frac{1}{362880} A^9 - \frac{1}{39916800} A^{11} + \frac{1}{6227020800} A^{13} - \frac{1}{1307674368000} A^{15} + \frac{1}{355687428096000} A^{17} - \frac{1}{121645100408832000} A^{19} + \dots$$

$$\text{Co-sine} = 1 - \frac{1}{2} A^2 + \frac{1}{24} A^4 - \frac{1}{720} A^6 + \frac{1}{40320} A^8 - \frac{1}{3628800} A^{10} + \frac{1}{479001600} A^{12} - \frac{1}{87178291200} A^{14} + \frac{1}{20922789888000} A^{16} - \frac{1}{6402373705728000} A^{18} + \frac{1}{2432902008176640000} A^{20} + \dots$$

$$\text{Tangent} = A + \frac{1}{3} A^3 + \frac{2}{15} A^5 + \frac{17}{315} A^7 + \frac{62}{2835} A^9 + \frac{1382}{155925} A^{11} + \frac{31844}{6081075} A^{13} + \frac{929569}{638512875} A^{15} + \frac{6404582}{10854718875} A^{17} + \dots$$

$$\text{Co-tangent} = \frac{1}{A} - \frac{1}{3} A + \frac{1}{45} A^3 - \frac{2}{945} A^5 + \frac{1}{4725} A^7 - \frac{2}{93555} A^9 + \frac{1382}{638512875} A^{11} - \frac{4}{18243225} A^{13} + \frac{3617}{162820783125} A^{15} - \dots$$

$$\text{Secant} = 1 + \frac{1}{2} A^2 + \frac{5}{24} A^4 + \frac{61}{720} A^6 + \frac{277}{8064} A^8 + \frac{50521}{3628800} A^{10} + \frac{540553}{95800320} A^{12} + \frac{199360981}{87178291200} A^{14} + \frac{3878302429}{4184557977600} A^{16} + \frac{240495800320}{879661671} A^{18} + \dots$$

$$\text{Co-secant} = \frac{1}{A} + \frac{1}{6} A + \frac{7}{360} A^3 + \frac{31}{15120} A^5 + \frac{127}{604800} A^7 + \frac{73}{3421440} A^9 + \frac{1414477}{653837184000} A^{11} + \frac{8191}{37362124800} A^{13} + \frac{118518239}{5335311421440000} A^{15} + \dots$$

Let the Sine and Co-sine of 0^d 05' be sought, the length of the Arch of 0^d 05' is = 00145444104332860798077=A.

If

Of Constructing the Natural Sines,

If the *Sine* and *Co-sine* of $29^{\circ} 55'$ be required, the num. of minutes contained therein is 1795' which drawn into, 00290888, &c., make the length of the Arch = $A = .522144334554970265095$.

$A =$	.00145444104332860798077
$A^2 =$	211539874851880971
$A^3 =$	307672276285175
$A^4 =$	447491186523
$A^5 =$	650849548
$A^6 =$	946622
$A =$	.00145444104332860798077
$120) A^7$	54237162
$+ 6) A^8$	51278712714196
The Sine of $\left. \begin{array}{l} 0 \text{ deg. } 05' \\ 24 \end{array} \right\}$	.00145444053054202321343
$+ 1) A^9$	1.00000000000018645466105
$2) A^{10}$	.00000105769937425940486
$720) A^{11}$	1315
	.00000105769937425941801
Co-sine 0 deg.	.99999894230081219524304
05' or Sine of 89 deg. 55'	

The Powers of the Arch of $29^{\circ} 55'$

$A =$	.5221.4433.4554.9702.65095
$A^2 =$	.2726.3470.6107.8527.15224
$A^3 =$	.1423.5466.7197.2746.43276
$A^4 =$	.0731.0020.6837.6958.372
$A^5 =$	.0388.1082.2854.4101.536
$A^6 =$	.0202.6485.1272.8468.213
$A^7 =$	.0105.8117.7282.7160.454
$A^8 =$	.0055.2490.1771.5918.38
$A^9 =$	.0028.8479.6158.7483.786
$A^{10} =$	.0015.0627.9970.6364
$A^{11} =$	.0007.8649.5552.92159
$A^{12} =$	4.1066.41972
$A^{13} =$	2.1442.5984.04
$A^{14} =$	1.1196.1312.69
$A^{15} =$	5845.995
$A^{16} =$	3052.454
$A^{17} =$	1593.82

The Series for the Sine.

The Powers drawn into the Co-efficients of the Series.

$A =$	.522144334554970265095
$120) A^2$	323423523786751280
$362880) A^3$	7949724864276
$6227620800) A^4$	34434763
$3556874280960) A^5$	45
$+ 522467766028516315459$	
$6) A^6 =$	023725777866212440546
$5040) A^7 =$	2099439937046834
$39916800) A^8 =$	19703371838
$130767436800) A^9 =$	44705
$- 023727877325852903923$	

The Sine $29^{\circ} 55' \left\{ \begin{array}{l} 24 \\ 24 \end{array} \right. = 498739888702663411536$

The Co-sine of $29^{\circ} 55'$ or the Sine of 60 deg. 05' .866751708055343213217
 Out of which subtract the Sine of 0 deg. 05' = .001454440530542023213
 There remains the Sine of 59 deg. 55' = 865297267524801190004
 Out of the Sine of 89 deg. 55' = 999998942300812195243
 Subtract the Sine of 29 deg. 55' = 498739888702663411536
 There remains the Sine of 30 deg. 05' = 501259053598148783707

The Series for the Co-sine.

$1 - A^2 =$	1.003097070123938134276
24	
$40320) A^3$	137026333608431
$479001600) A^4$	857333665
$2092278988800) A^5$	1459
$+ 1.003097207151129077831$	
$2) A^6 =$	.136317353053926357612
$720) A^7$	28145626767842807
$3628800) A^8$	415090379915
$87178291200) A^9$	1284280

$- 136345499095785864614$

Since these Series Converge the swiftest near the beginning and end of the Quadrant, for raising a Table, no more than the first and last thirty Degrees need be calculated, the intermediate are obtained from them by Subtraction only as above.

Tab. 1.

Tangents and Secants, by Mr. Sharp.

47

Tab. 1. The Powers of the Arch of 0 deg. Tab. 2. The Quotients of these Powers divided by the Co-efficients of the two Series for the Sine and Co-sine.

$\frac{1}{2}$	3437.7467707849392526104
1 a ¹	.00029088820866572159615395
2 a ²	(7) 84615949940752388707429
3 a ³	(10) 24613782102813833777464
4 a ⁴	(14) 7159858984375914174070
5 a ⁵	(17) 2082718554264284237546
6 a ⁶	(21) 60583826940479859293603
7 a ⁷	(24) 17623120892830270901942
8 a ⁸	(28) 51263580676148497209095
9 a ⁹	(31) 1491197115267553744734
10 a ¹⁰	(35) 4337716576276702730969
11 a ¹¹	(38) 126179060457273697238
12 a ¹²	(42) 367040008675401318839
13 a ¹³	(45) 1067676106322384037456
14 a ¹⁴	(49) 310574390003310804620
15 a ¹⁵	(53) 903424279655122726604
16 a ¹⁶	(56) 262795470373998561429
17 a ¹⁷	(60) 764441036225581513279
18 a ¹⁸	(63) 222266883658227396957
19 a ¹⁹	(67) 646839044539206886781
20 a ²⁰	(70) 188157850961056798222

a	.00029088820866572159615395
$\frac{1}{2}a^2$	(7) 42307974970376194353715
$\frac{1}{6}a^3$	(11) 410229701713563896291
$\frac{1}{24}a^4$	(15) 2983274576823297572900
$\frac{1}{120}a^5$	(19) 1735598795220231253125
$\frac{1}{720}a^6$	(24) 841442040839998045744
$\frac{1}{5040}a^7$	(28) 349665097079965692499
$\frac{1}{40320}a^8$	(32) 1271418171531460744273
$\frac{1}{362880}a^9$	(37) 410933949313148628940
$\frac{1}{3628800}a^{10}$	(41) 1195358403956322401614
$\frac{1}{39916800}a^{11}$	(46) 31610414985488229849
$\frac{1}{47904000}a^{12}$	(51) 76626050659413521550
$\frac{1}{62271000}a^{13}$	(55) 171458573949581802804
$\frac{1}{87171000}a^{14}$	(60) 35625198168980720354
$\frac{1}{130761000}a^{15}$	(65) 69086333858240978124
$\frac{1}{209221000}a^{16}$	(69) 125602499370660678801
$\frac{1}{355681000}a^{17}$	(74) 21491329681581817614
$\frac{1}{640231000}a^{18}$	(79) 347319437881738804061
$\frac{1}{121641000}a^{19}$	(84) 531742784843180879995
$\frac{1}{243291000}a^{20}$	(89) 77338853076977551335

Tab. 3. The Logarithms of these Quotients.

$\frac{1}{2}$	3.5362738827928158479613
a	96.4637261172071841520387
$\frac{1}{2}a^2$	92.6264222387503871088637
$\frac{1}{6}a^3$	88.6130271012379088236073
$\frac{1}{24}a^4$	84.4746932271171305852186
$\frac{1}{120}a^5$	80.2394493399882959324710
$\frac{1}{720}a^6$	75.9250242068118364520009
$\frac{1}{5040}a^7$	71.5436522940047637733274
$\frac{1}{40320}a^8$	67.1042884142200043397249
$\frac{1}{362880}a^9$	62.6137730219878636171735
$\frac{1}{3628800}a^{10}$	58.0774981391950477692023
$\frac{1}{39916800}a^{11}$	53.4998315712440068805008
$\frac{1}{47904000}a^{12}$	48.8843764424035662048170
$\frac{1}{62271000}a^{13}$	44.2341592073039135876492
$\frac{1}{87171000}a^{14}$	39.5517572888328597137620
$\frac{1}{130761000}a^{15}$	34.8393921469843626237194
$\frac{1}{209221000}a^{16}$	30.0989982815356319949031
$\frac{1}{355681000}a^{17}$	25.3322754773645322184016
$\frac{1}{640231000}a^{18}$	20.5407290894684103006365
$\frac{1}{121641000}a^{19}$	15.7257016057227654911389
$\frac{1}{243291000}a^{20}$	10.8883977272659684479639

Tab. 4. The Logarithms of the Co-efficient Fractions of the two Series of the Sine and Co-sine, viz. of the Reciprocals of the Divisors, which are to be added to the Logarithms of the Powers.

$\frac{1}{2}$	99.6989700043360188047863
$\frac{1}{6}$	99.2218787496163563674912
$\frac{1}{24}$	98.6197887582883939770638
$\frac{1}{120}$	97.9208187539523751722775
$\frac{1}{720}$	97.1426675035687315397687
$\frac{1}{5040}$	96.2973694635544747090569
$\frac{1}{40320}$	95.3944794765625311214153
$\frac{1}{362880}$	94.4402369671232062488252
$\frac{1}{3628800}$	93.4402369671232062488252
$\frac{1}{39916800}$	92.3988442819649812080750
$\frac{1}{47904000}$	91.3196630359173563803525
$\frac{1}{62271000}$	90.2057196836105196111460
$\frac{1}{87171000}$	89.0595916479322815852201
$\frac{1}{130761000}$	87.8835003888766093431388
$\frac{1}{209221000}$	86.6793804062206755622838
$\frac{1}{355681000}$	85.4488934844824016337436
$\frac{1}{640231000}$	84.1936589797390955639398
$\frac{1}{121641000}$	82.91490533787862666024035
$\frac{1}{243291000}$	81.6138753831222854071898

A little to facilitate the Operation in the preceding Table, you have the Powers of the Arch of one Minute, and their Quotients, being

being divided by the respective Co-efficients of each Member of both the Series for the Sine and Co-sine, and the Logarithms of those Quotients and Co-efficients, so that the Powers of the Number of Minutes contain'd in any Arch being multiplied respectively by those Quotients, produce the several Members of the Series, whereby the Sine and Co-sine are Composed.

These Tables needs no Explication, each Table and Number as far as needful having a proper Title prefix'd, only the small Figures in the two first Tables, enclosed in a Parenthesis denote the Number of Cyphers that must preceed the first Figure of the following Number.

The Use of the first Table is principally to compose the Second, though thereby the Tangent, Co-tangent, Secant, and Co-secant of 1' may be easily made from their proper Series but the Sine and Co-sine most readily from the 2d to 23 Figures: But the chief Design and Use of the Second Table is express'd above:

Shall exemplify in making the Sine and Co-sine of $44^d 37'$ which being so very near $45^d 0'$ must necessarily be as Troublesome and Laborious as any that need be propos'd.

The Number of Minutes contain'd in $44^d 37'$ are 2677, call this Number a , the Powers hereof must be raised, which (since its consists only of Four Figures) is perform'd with much more Ease and Expedition than the Powers of the Arch can be, which must consist of so many Places as are intended in the Sine, a due Account must be kept of the Number of Figures every Power extends to, tho' no more need be expressed in any, than are required in the Sine, fewer will suffice in most; the reason is, that after Multiplication with the respective Numbers, viz. those which answer the same Power in the Second Table, the Number of Cyphers preceeding the first Figure of each Product may be rightly determined; in the adjoining small Table of the Powers of 2677 the Number of Figures in each is express'd by small Figures before it, enclosed in a Parenthesis.

The Powers of 2677 = a being the Number of Minutes contain'd in $44^d 37' min.$

a	(4)	2677
aa	(7)	7166329
a^3	(11)	19184262733
a^4	(14)	51356271336241
a^5	(18)	137480738367117157
a^6	(21)	368035936608772629289
a^7	(24)	985232202301684328607
a^8	(28)	263746660556160894768
a^9	(31)	706049810308842715294
a^{10}	(35)	189009534219677194884
a^{11}	(38)	505978523106075850705
a^{12}	(42)	135450450635496505234
a^{13}	(45)	36260085635122413
a^{14}	(48)	97068249245222700
a^{15}	(52)	25985170322946117
a^{16}	(55)	69562300954526755
a^{17}	(59)	186218279655268
a^{18}	(62)	498506334637152
a^{19}	(66)	133450145782366
a^{20}	(69)	357246040259393

The

The Powers of 2677 drawn into the respective Numbers in Table 2d.

The Series for the Sine.

$$\begin{aligned} 2677 \times A &= 7787077345981367129042 \\ 120) A^5 &= 23861140387595692433 \\ 362880) A^9 &= 2901398369620122 \\ 6227020800) A^{13} &= 62171025743 \\ 355687428096000) A^{17} &= 400219 \\ + .7810941387829503867559 \\ 6) A^3 &= .0786995437855323009621 \\ 5040) A^7 &= 344501313664126849 \\ 39916800) A^{11} &= 15994241686980 \\ 1307674368000) A^{15} &= 179522915 \\ &1216451 \quad 709 \end{aligned}$$

The sine of 7023601432666095521385
44 deg. 37 min.

A considerable part of the Labour both in raising the Powers, and multiplying them by the Numbers in the Second Table in this Method, or by the Co efficient of the Two Series in the former, may be saved, in working by the Logarithms, for which the Third and Fourth Tables may be very serviceable, especially when the Powers ascend high, as in the preceding Example. Note, The Characteristicks of the Logarithms in the Third and Fourth Tables consist of Two Figures.

The Series for the Tangent.

$$\begin{aligned} A &= 52214433455 \\ \frac{1}{3} A^3 &= 4745155573 \\ \frac{1}{5} A^5 &= 517477638 \\ \frac{1}{7} A^7 &= 57104766 \\ \frac{1}{9} A^9 &= 6308902 \\ \frac{1}{11} A^{11} &= 697090 \\ A^{13} &= 77025 \\ A^{15} &= 8511 \\ A^{17} &= 940 \\ A^{19} + A^{21} &= 116 \end{aligned}$$

The Tan of 29 deg. 55' = 57541264016

The Series for the Co-sine

$$\begin{aligned} 1-24) A^4 &= 1.01532.9858637846515232 \\ 40320) A^8 &= 33533220641184292 \\ 47900160) A^{12} &= 1037903309223 \\ 2092278988800) A^{16} &= 6737199 \\ &24329 \quad \&c.) A^{20} \quad 28 \\ + 1.0153243392905450046574 \\ 2) A^2 &= .3031928679614810625065 \\ 720) A^6 &= 3096809096025457906 \\ 3628800) A^{10} &= 225934135157361 \\ 87178291200) A^{14} &= 3458075623 \\ &64023737 \quad \&c.) A^{18} \quad 17314 \end{aligned}$$

Co-sine 44d 37' 7118217678257020713705
or the Sine of 45 deg. 23'

The Series for the Co-tangent.

$$\begin{aligned} 1795 \times (\frac{1}{2} \text{ i.e.}) 3437.7 \quad \&c. A &= 1.91517925949022 \\ \frac{1}{3} A &= 17404811151832 \\ \frac{1}{5} A^3 &= 316343704883 \\ \frac{1}{7} A^5 &= 8213930763 \\ \frac{1}{9} A^7 &= 223940260 \\ \frac{1}{11} A^9 &= 6167059 \\ \frac{1}{13} A^{11} &= 170229 \\ \frac{1}{15} A^{13} &= 4702 \\ A^{15} + A^{17} &= 133 \\ &17729599069861 \end{aligned}$$

The Co-tang. of 29 deg. 55' = 173788326879161
or the Tan. of 60 deg. 05'

The Series for the Co-secant of 29 deg. 55'

$$\begin{aligned} 1795 \times (\frac{1}{2} \text{ i.e.}) 3437.7 \quad \&c. A &= 1.91517925949022 \\ \frac{1}{3} A &= 08702405575932 \\ \frac{1}{5} A^3 &= 276800741772 \\ \frac{1}{7} A^5 &= 7957245427 \\ \frac{1}{9} A^7 &= 222190727 \\ \frac{1}{11} A^9 &= 6155014 \\ \frac{1}{13} A^{11} &= 170146 \\ \frac{1}{15} A^{13} &= 4700 \\ A^{15} &= 35 \end{aligned}$$

The Co-secant of 29 deg. 55' = 2.00505318032775
or Secant of 60 deg. 05'

Altho' the Series for the Tangent & Secant converge so slowly, that except near the beginning of the Quadrant (where they are of excellent Use) 'twere better to make the Sine and Co-sine first, and from thence deduce them by these known Proportions, as the $\left\{ \begin{smallmatrix} \text{Co-sine} \\ \text{Sine} \end{smallmatrix} \right\}$

: to the $\left\{ \begin{smallmatrix} \text{Sine} \\ \text{Co-sine} \end{smallmatrix} \right\}$:: so is the

Radius: to the $\left\{ \begin{smallmatrix} \text{Tangent} \\ \text{Co-tangent} \end{smallmatrix} \right\}$

And as the $\left\{ \begin{smallmatrix} \text{Sine} \\ \text{Co-sine} \end{smallmatrix} \right\}$: to the Radius ::

to the Radius: to the $\left\{ \begin{array}{l} \text{Co-secant} \\ \text{Secant} \end{array} \right\}$ Yet the Two Series for the Co-tangent and the Co-secant are of much quicker Dispatch, as in the instance of the Tangent and Co-tangent and Co-secant of 29 deg. 55 min. The Powers of the Arch of 29 deg. 55' or 1795' or =,52214433455497 &c. = A may be seen before, and need not be repeated. To obtain \dot{A} multiply the Number of Minutes, viz. 1795 by the reciprocal of ,0002908 &c. = 3437,74677, &c.

The Versed Sine of any Arch under 90 deg. is the difference of the Radius and the Co-sine of the said Arch; the Sum of the Radius and the Sine of any Arch is the Versed Sine of an Arch so much exceeding 90 deg. so that the Series for the Sine and Co-sine may be easily apply'd to the finding the Versed Sine of any Arch immediately, which is so plain and obvious as needs no Illustration.

1. The Sine of an Arc FR being given to find its Figure 1 Co-sine CR $CFq - FRq = CRq$, therefore $\sqrt{CFq - FRq} : = CR$ i. e. $\sqrt{rr - ss} : = cs$.

2. The Sine of an Arc FR being given, to find EV the Sine of half the Arc. CR is found by 1st and consequently ER ; then $\sqrt{FRq + ERq} : = FE$, but $\frac{1}{2} FE = EV$, therefore $\frac{1}{2} \sqrt{ss + vv} : = S$ Arc.

3. To find the Sines of the double, triple, quadruple, quintuple, &c. of any Arc whose Sine is given successively. Let the Chords $D^3, \beta\gamma, \gamma^d, \delta^e, \epsilon^f$ be all equal, draw the Chords $D\gamma, D^d, D^e, D^f$, and $E^3, E\gamma, E^d, E^e, E^f$, extended, draw the Radius C^3 , and make $\gamma^c = D\gamma, \delta^d = D^d, \epsilon^e = D^e$ and $\beta^a = E^3, \gamma^u = E\gamma, \delta^p = E^d, \epsilon^q = E^e, \eta^r = E^f$, then are the Triangles $EC^3, D^3\gamma, D\gamma^c, D^d\delta, D^e\epsilon, E^3\beta, E\gamma^u, E^d\delta^p, E^e\epsilon^q, E^f\eta^r$, all Isosceles and Equiangular, In the Triangles $E^3\beta, E\gamma^u$, which being largest, all their parts are most distinguishable, the Angles $E^3\beta, E\gamma^u$ are equal, the Angles $ED^3, E\gamma^u$ being subtended by the same diagonal E^3 do both together make two right Angles, so also do the Angles $ED^3, \beta D^a$, therefore the Angles $E\gamma^u, \beta D^a$ are equal, but $\beta^a = E\gamma$, and $D^3 = \beta\gamma$ by Construction, therefore the Triangles $E\gamma^u, \beta^a D$ are equal, consequent $D^a = E\gamma$; in the same manner may be prov'd $B^u = E^d, \gamma^p = E^e, \delta^q = E^f$ likewise $\delta^c = D^3, \epsilon^d = D\gamma, \eta^e = D^d$. Therefore $C^3 : E^3 :: D^3 : D\gamma$ i. e. Radius : to double the Co-sine of an Arc :: so is the Chord of the Arc : to the Chord of double the Arc, and halving the two last Terms, $\therefore \frac{1}{2} D^3 : \frac{1}{2} D\gamma$ so is the Sine of the Arc : to the Sine of twice the Arc, again 2) $C^3 : E^3 :: D\gamma : D^c :: \frac{1}{2} D\gamma : \frac{1}{2} D^c$ i. e. $r : 2cs \text{ arc} :: s 2 \text{ arc} : s \text{ arc} + s 3 \text{ arc}$, (3) $C^3 : E^3 :: \frac{1}{2} D^d : \frac{1}{2} D^d$ i. e. $r : 2cs \text{ arc} :: s 3 \text{ arc} : s 2 \text{ arc} + s 4 \text{ arc}$, 4) $C^3 : E^3 :: \frac{1}{2} D^e : \frac{1}{2} D^e$, i. e.

i. e. $r : 2 \text{ cs arc} :: s 4 \text{ arc} : s 3 \text{ arc} + s 5 \text{ arc}$, &c. again 5) $C^B : E^B :: \frac{1}{2} E^B : \frac{1}{2} E^A$, i. e. $r : 2 \text{ cs arc} :: s 0$ is the Co-sine of the arc :: to the Sum of the Radius, and the Co-sine of double the arc, (6) $C^B : E^B :: \frac{1}{2} E^B : \frac{1}{2} E^A$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 2 \text{ arc} : \text{cs arc} + \text{cs } 3 \text{ arc}$, (7) $C^B : E^B :: \frac{1}{2} E^B : \frac{1}{2} E^A$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 3 \text{ arc} : \text{cs } 2 \text{ arc} + \text{cs } 4 \text{ arc}$, (8) $C^B : E^B :: \frac{1}{2} E^B : \frac{1}{2} E^A$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 4 \text{ arc} : \text{cs } 3 \text{ arc} + \text{cs } 5 \text{ arc}$, (9) $C^B : E^B :: \frac{1}{2} E^B : \frac{1}{2} E^A$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 5 \text{ arc} : \text{cs } 4 \text{ arc} + \text{cs } 6 \text{ arc}$, &c. *Ex. Gr.* Suppose $D^B = 17$, &c. be 0 deg. 5 min. its Sine is = ,001454440530542 then Radius = 1, : 2 cs, i. e. 0 deg. 5 min. = 1,999997884601624 :: s 0 deg. 5 min. = ,001454440530542 : s 0 deg. 10 min. = ,002908877984363 (2) $r : 2 \text{ cs } 0 \text{ deg. } 5 \text{ min.} = 1,99 \text{ \&c.} :: s 0 \text{ deg. } 10 \text{ min.} = ,002908 \text{ \&c.} : s 0 \text{ deg. } 5 \text{ min.} + s 0 \text{ deg. } 15 \text{ min.} = ,005817749815290$ out of which subtract s 0 deg. 5 min. = ,00145 &c. there rests s 15' = ,004363309284748 &c. again 5) $r : 2 \text{ cs } 5 \text{ min.} = 1,999997884601624 :: s 0 \text{ deg. } 5 \text{ min.} = 999998942300812 : \text{cs } 0^d 10' + 1, 1,999995769205486$, (6) $r : 2 \text{ cs } 0 \text{ deg. } 5 \text{ min.} = 1,9999978 \text{ \&c.} :: \text{cs } 10 \text{ min.} = 999995769205486 : \text{cs } 5 \text{ min.} + \text{cs } 15 \text{ min.} = 1,999989423021547$ out of which subtract cs 5 min. = 99999894 &c. rests cs 15 min. = 999990480720734. (7) $r : 2 \text{ cs } 5 \text{ min.} = 1,9999978 \text{ \&c.} :: \text{cs } 15 \text{ min.} = 999990480720734 : \text{cs } 10 \text{ min.} + \text{cs } 20 \text{ min.} = 1,999978846063230$, out of which subtract cs 10' = 999995769205486 rests cs 20 min = 999983076857744 &c. By this one Rule (after the first Sine is obtained) the whole Work may (if need) be accomplished, and it has these Advantages, the two first Terms are invariable, the first being the Radius = 1, Division is wholly excluded, the second being fix'd, a small Table of its Products to 10 or 100, turns Multiplication into Addition: From the fourth Term the Sine or Co-sine of such an Arc must be subtracted, as is so much less than the Arc of the third Term, as the Arch of which the Sine or Co-sine is sought exceeds it, *Viz.* so much as is the distance of the first in that Rank from the beginning of the Table.

4. Having the Sines of the first or last 30^d of the Quadrant given to find the middle 30^d , *viz.* all between 30^d and 60^d . Make the Arch $DL = 30^d$ draw the Radius CL and Perpendicular thereto, the Chords MG less than 60^d , and $e a$ greater than 120^d , draw MP , $e b$ Parallel to CB , and SG , $a b$ to CD , then in the Triangles MQG , $a b e$ the Angles QMG , $b e a$ are = 30^d , therefore drawing the Semicircles MQG , $e b a$ 'tis manifest the Lines QG , $b a$ being the Chords of 60^d are equal to the Radius MK or KG , and $e g$ or $g a$, in the Triangle MQG , (MGq , i. e.) $4GKq - QGq$

$$h 2 \quad = MQq$$

$=MQq$, but because $GK=QG$, $3GKq=MQq$, therefore $GK \times \sqrt{3}=MQ$, and YG (i. e. PQ) $+ GK \times \sqrt{3}=MQ$, that is, if to the Sine of an Arc less then 30^d the Sine of its defect multiplied by $\sqrt{3}$ be added, the Sum will be the Sine of an Arc as much exceeding 30^d . The Sine of $11^d 0 \text{ min.} = ,190808995376544$ multiplied by $\sqrt{3}=1,7320508075688773$ produces 330490874533349 , which added to the Sine of $19^d 0 \text{ min.} = ,325568154457155$ makes $,656059028990504$ the Sine of $41^d 0 \text{ min.}$ In the Triangle eha , ($eaq, =$) $4egq - ahq = ebq$, but because $eg = ah$, $3egq = ebq$ and $eg \times \sqrt{3} = eb$ (i. e. $ek + kb$) $g^o eg \sqrt{3} - ek = kb = fa = fn$, that is, if the Sine of an Arc greater than 60^d be multiplied by $\sqrt{3}$, and out of the Product the Sine of an Arc wanting so much of 90^d be subtracted, the remainder is the Sine of an Arc so much exceeding 30^d Ex. Gr. if the Sine of $83^d = ,992546151641321$ be drawn into $\sqrt{3}=1,732$ &c. and from the Product $1,719140363499731$, the Sine of $67^d = ,920504853452439$ be taken, there remains $,798635510047292$ the Sine of $53^d 0 \text{ min.}$

5. Having all the Sines under 60^d to find all the rest by Addition only, or having all above 30^d to find the Sines of the first 30^d , or having the Sines of the first and last 30^d to find all the intermediate by Subtraction only. In the Triangle MQG , $MK=QG$ (by 4) therefore $ZM + MK = SG$, that is, if to the Sine of any Arc ZM less then 60^d the Sine of the defect KM be added, the Sum is the Sine of an Arc so much exceeding 60^d , ex. gr. Sine $41^d = ,656059028990506 +$ Sine $19.00 \text{ min.} = ,325568154457155$, makes Sine $79^d 0 \text{ min.} = ,981627183447661$. In the Triangle eha , $eg = ab$ (by 4) therefore $eg - em$ (i. e. hp) $= pa$ the Sine of the Arc Bn , that is, from the Sine of an Arc exceeding 60^d subtract the Sine of the Excess, and there will remain the Sine of an Arc wanting so much of 60^d ex. gr. Sine $67^d = ,920504853452439 -$ Sine $7^d = ,121869343405147 = S. 53^d = ,798635510047292$. By a continual Bisection (by the second) the Sine of an Arc a little less then $0^d 1 \text{ min.}$ may be found. and from that by Proportion the Sine of $0^d 1 \text{ min.}$ But the Sine of $0^d 1 \text{ min.}$ may be obtained from the length of its Arc by the Series in the other Method with incomparably less labour and greater accuracy, from which (by the third) the Sines and Cosines of all Arcs under 30^d being computed, the rest are had (by the 5) by Subtraction; or having the first 30^d made (by the third) all to 60^d may be got (by 4th) and all the rest by Addition (by 5th;) or the last 30^d being obtained (by third) the rest above 30^d are made (by fourth) and the first 30^d by Subtraction (by fifth.)

The Sines being made, the Tangents & Secants are thus obtained. The Triangles CFR , CWF , CEH , CBI are Equiangular, then $CR : RF :: CE : EH$, i. e. Co-sine : Sine :: Radius : Tangent, and $(FR, \text{i. e.}) CW : (RC, \text{i. e.}) WF : CB : BI$, i. e. Sine : Co-sine :: Rad :: Co-tang. : CR : CF :: CE : CH, i. e. Co-sine : Rad :: Rad : Secant, and $CW : CF :: CB : CI$, i. e. Sine : Rad :: Rad : Co-secant.

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Fig. 5

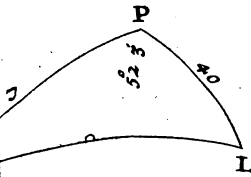


Fig. 4

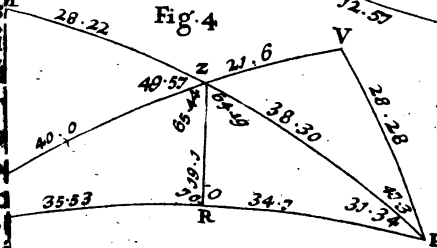


Fig. 3

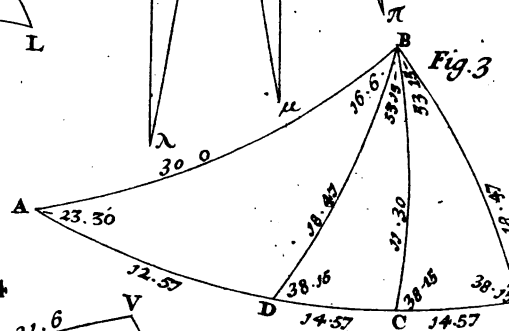
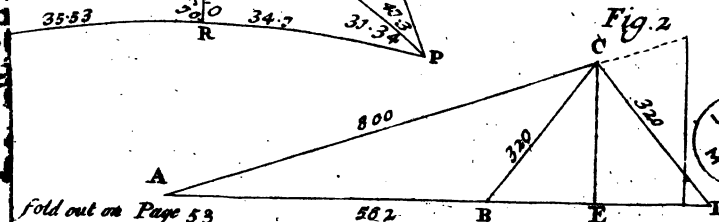


Fig. 2



fold out on Page 53

An Example of this Process take as follows, the square Root of 12 being 3.4641,0161,5138—

1)	3.4641 0161 5138	(3.4641 0161 5138 = $\sqrt{12}$	
3)	1.1547 0053 8379	(0.3849 0017 9460	
5)	3849 0017 9460	(769 8003 5892	
7)	1283 0005 9820	(183 2857 9974	
9)	427 6668 6607	(47 5185 4067	
11)	142 5556 2202	(12 9596 0200	
13)	47 5185 4067	(3 6592 7236	
15)	15 8395 1356	(1 0552 6757	
17)	5 2798 3785	(3105 7870	
19)	1 7599 4595	(926 2873	
21)	5866 4865	(279 3565	
23)	1955 4955	(85 0215	
25)	651 8318	(26 0733	
27)	217 2773	(8 0473	
29)	72 4258	(2 4974	
31)	24 1419	(7788	
33)	8 0473	(2438	
35)	2 6824	(766	
37)	8941	(342	
39)	2980	(76	
41)	993	(24	
43)	331	(8	
45)	110	(2	
47)	37	(1	
		+ 3.5462 3317 2181 0.4046 4051 8591	
		— 0.4046 4051 8591	
		3.1415 9265 3590	

This Work being to be perform'd in little more than half an hours time is more than sufficient to exhibit the circumference of the Globe of the Earth so truly, as not to err the breadth of a Grain of Sand in the whole, and the Compendium of this Method has tempted the ready Pen of the most Incomparable Mr. *SHARP* to continue it to be double the famous Number of *Van Ceulen*. Which is a degree of Exactness far surpassing all belief; for it is more than sufficient to give the Number of Grains of Sand that may be comprehended within the Sphere of the fix'd Stars, it being greater than the Cube of 12000 \times 5280 \times 8000 \times 100000 \times 100000. which consists but of 65 Places, taking all the Dimensions with the most. So that here you have the *Dimensio Circuli*, and the *Arenarius* of *Archimede* both in one. Hence it appears, that *Van Ceulen's* Number is true. And all future *Squarers* of the Circle may please to square their Work by this Rule, and not expose themselves by obtruding their false reasoning on the World.

The

The QUADRATURE of the CIRCLE.

The Affirmative Part consisting of the Square Root of 12 or $2\sqrt{3}$, and its Quotients made by a continual Division by 9, and those again divided by 1, 5, 9, 13, 17, 21, 25, &c. respectively as is express'd before each.

1) $\sqrt{12}$ (or $2\sqrt{3}$)	3.46410161	5137 7545	8705 4892	6830 1174	4733 8856	1050 7620	7612 5611	16139589	03866034
9 x5) $2\sqrt{3}$ (	769 8063	5891 9501	0193 4553	1707 3359	4327 4196	8023 3502	6835 8346	9146 6768	6453 0346
9 x9) $2\sqrt{3}$ (	47 5185	4067 4043	2727 9910	6895 5145	6459 9641	7779 2191	5236 7799	1922 6528	9287 2244
9 x13) $2\sqrt{3}$ (	3 6552	7235 9541	7902 1531	5915 0395	8187 6895	5213 7860	8864 3676	8609 4348	3791 3350
9 x17) $2\sqrt{3}$ (	3105	7869 7215	9691 0326	2136 5719	9001 6991	1227 3151	5785 8613	0666 1611	3501 8773
9 x21) $2\sqrt{3}$ (	279 3565	0014 1347	8706 5906	4641 4730	4173 8046	9013 6340	5272 0747	7499 4291	1741
9 x25) $2\sqrt{3}$ (	26 6732	7334 6525	8012 6151	2693 8708	1722 8884	3774 6058	4492 0603	1233 2800	5096
9 x29) $2\sqrt{3}$ (	2 4974	3997 5720	8621 8980	0067 0374	3460 0467	8522 4718	2422 6111	4102 8046	0258
9 x33) $2\sqrt{3}$ (	2438	5777 5407	0875 5388	6201 8319	3805 8631	5411 2851	2761 8037	8144 7182	9453
9 x37) $2\sqrt{3}$ (	241 6608	5851 1528	2065 5389	3707 3260	0404 9274	9922 1985	4039 7834	1612 7243	
9 x41) $2\sqrt{3}$ (	24 2315	7659 8716	9204 4036	3325 6668	3509 4371	7471 8735	6638 1354	6448 9724	
9 x45) $2\sqrt{3}$ (	2 4530	7318 6536	7746 6186	3941 6107	1663 9183	3126 7822	6227 5643	3097 3034	
9 x49) $2\sqrt{3}$ (	2503	1359 0462	9361 8998	6116 4908	8945 2677	8890 4879	8594 6494	2152 7861	
9 x53) $2\sqrt{3}$ (	257 1355	5414 4316	0022 0181	7778 9011	1521 8376	5910 0903	8528 7558	6719	
9 x57) $2\sqrt{3}$ (	26 5650	6153 9276	3121 2761	4702 3036	2398 9422	9226 5785	3883 0878	3813	
9 x61) $2\sqrt{3}$ (	2 7181	8343 8504	0979 8046	2728 6544	7462 1852	6531 7212	6905 8943	6571	
9 x65) $2\sqrt{3}$ (	2876	0545 2561	9657 7832	1754 6118	3410 5868	3963 1367	4771 3838	5894	
9 x69) $2\sqrt{3}$ (	301 0363	0300 3667	8776 3146	6179 8585	6491 8611	2784 0354	4926 7423		
9 x73) $2\sqrt{3}$ (	31 6156	8479 0339	5487 9234	5763 1814	5311 9306	2673 2692	0243 4478		
9 x77) $2\sqrt{3}$ (	3 3303	6795 0497	5282 2776	5138 1129	1341 6608	0131 8099	1568 5161		
9 x81) $2\sqrt{3}$ (	3517	6725 9517	5715 6863	9116 0669	7439 3798	1039 0114	7260 7486		
9 x85) $2\sqrt{3}$ (	372 4594	5125 3893	3079 7082	8808 5611	2284 5050	1306 2651	1381		
9 x89) $2\sqrt{3}$ (	39 5244	1118 1749	6144 5383	3269 3229	6559 5252	4608 0306	3065		
9 x93) $2\sqrt{3}$ (	4 2027	1516 7473	9733 4096	9128 9961	0984 2271	2413 5181	9125		
9 x97) $2\sqrt{3}$ (	4477	1192 5057	3648 5762	9013 7418	5362 5808	9638 5534	8429		
9 x101) $2\sqrt{3}$ (	4 77 7563	9967 6175	9206 8222	5885 1463	3337 1501	5838 1515			
3.5462 3317	2162 1216	8216 8891	2068 8337	2605 8456	6289 2593	1926 3028	6006 8370	3313 5867	

3 5462 3317 2182 1216 8216 8891 2068 8337 2605 8456 6889 2593 5926 3028 6006 8370 3313 5867	9 ² 6x105)2√3(5106179509 7665 3629 5122 2025 8198 7266 7218 6877 9400	9 ² 7x109)2√3(54653 2975 0514 6412 9447 3305 8458 8851 1781 8167 3636	9 ² 8x113)2√3(5857 6297 2277 3804 3372 4277 5823 3220 0377 7955 0075	9 ² 9x117)2√3(628 5965 4195 0385 3657 2500 8231 7525 0372 9258 2297	9 ³ 0x121)2√3(67 5351 6566 4058 7583 0103 3942 2544 0122 7110 3883	9 ³ 1x125)2√3(7 2637 8226 2534 3197 8171 1206 2335 8448 7538 0951	9 ³ 2x129)2√3(7850 6096 7111 7915 3549 8622 5488 3553 9140 6218	9 ³ 3x133)2√3(842 8225 9613 5514 6873 7946 7909 7726 3616 6585	9 ³ 4x137)2√3(90 9127 3745 8250 9760 1092 3951 3380 0536 1035	9 ³ 5x141)2√3(9 8148 5030 0851 3662 0448 9031 7835 3564 5754	9 ³ 6x145)2√3(1 0064 5508 9977 0441 6462 2952 8593 7051 8047	9 ³ 7x149)2√3(1146 6516 6328 6140 2227 4666 7894 1739 3823	9 ³ 8x153)2√3(124 0748 7133 5973 0524 2502 0708 9556 4037	9 ³ 9x157)2√3(13 4348 5867 9691 3496 2563 9185 0461 5214	9 ⁴ 0x161)2√3(1455 6748 1 8986 5713 5350 2658 4211 4968	9 ⁴ 1x165)2√3(1578 2663 6940 6316 4169 2880 8119 8997	9 ⁴ 2x169)2√3(171 2058 1916 6365 6862 5460 4431 1528	9 ⁴ 3x173)2√3(18 5830 3367 9586 2562 4728 8470 6903	9 ⁴ 4x177)2√3(20181 1979 0689 5306 5334 6456 6412	9 ⁴ 5x181)2√3(2192 8005 0922 0668 6656 9872 8211	9 ⁴ 6x185)2√3(238 3765 1181 3177 7948 8977 1655	9 ⁴ 7x189)2√3(259257 2291 9128 6843 3545 4295	9 ⁴ 8x193)2√3(28209 3358 1874 1055 4945 3576	9 ⁴ 9x197)2√3(3070 7286 0294 2483 7622 3655	9 ⁵ 0x201)2√3(334 4021 7511 3139 4699 6164	9 ⁵ 1x205)2√3(36 4308 0066 9236 3324 9989	9 ⁵ 2x209)2√3(39703 9619 5743 4599 4815	9 ⁵ 3x213)2√3(4328 7052 9426 3866 0885	9 ⁵ 4x217)2√3(529 9178 7647 4428 9605	9 ⁵ 5x221)2√3(8276 3014 0180 6815 3459 8480	9 ⁵ 6x225)2√3(1390 5765 6888 8276 3014 0180 6815 3459 8480	9 ⁵ 7x229)2√3(1323 9418 8825 7513 7218 0916 5236 0892 2678 2075	9 ⁵ 8x233)2√3(1058 2097 4944 5923 0781 6405	9 ⁵ 9x237)2√3(9 ⁵ 10x241)2√3(9 ⁵ 11x245)2√3(9 ⁵ 12x249)2√3(9 ⁵ 13x253)2√3(9 ⁵ 14x257)2√3(9 ⁵ 15x261)2√3(9 ⁵ 16x265)2√3(9 ⁵ 17x269)2√3(9 ⁵ 18x273)2√3(9 ⁵ 19x277)2√3(9 ⁵ 20x281)2√3(9 ⁵ 21x285)2√3(9 ⁵ 22x289)2√3(9 ⁵ 23x293)2√3(9 ⁵ 24x297)2√3(9 ⁵ 25x301)2√3(9 ⁵ 26x305)2√3(9 ⁵ 27x309)2√3(9 ⁵ 28x313)2√3(9 ⁵ 29x317)2√3(9 ⁵ 30x321)2√3(9 ⁵ 31x325)2√3(9 ⁵ 32x329)2√3(9 ⁵ 33x333)2√3(9 ⁵ 34x337)2√3(9 ⁵ 35x341)2√3(9 ⁵ 36x345)2√3(9 ⁵ 37x349)2√3(9 ⁵ 38x353)2√3(9 ⁵ 39x357)2√3(9 ⁵ 40x361)2√3(9 ⁵ 41x365)2√3(9 ⁵ 42x369)2√3(9 ⁵ 43x373)2√3(9 ⁵ 44x377)2√3(9 ⁵ 45x381)2√3(9 ⁵ 46x385)2√3(9 ⁵ 47x389)2√3(9 ⁵ 48x393)2√3(9 ⁵ 49x397)2√3(9 ⁵ 50x401)2√3(9 ⁵ 51x405)2√3(9 ⁵ 52x409)2√3(9 ⁵ 53x413)2√3(9 ⁵ 54x417)2√3(9 ⁵ 55x421)2√3(9 ⁵ 56x425)2√3(9 ⁵ 57x429)2√3(9 ⁵ 58x433)2√3(9 ⁵ 59x437)2√3(9 ⁵ 60x441)2√3(9 ⁵ 61x445)2√3(9 ⁵ 62x449)2√3(9 ⁵ 63x453)2√3(9 ⁵ 64x457)2√3(9 ⁵ 65x461)2√3(9 ⁵ 66x465)2√3(9 ⁵ 67x469)2√3(9 ⁵ 68x473)2√3(9 ⁵ 69x477)2√3(9 ⁵ 70x481)2√3(9 ⁵ 71x485)2√3(9 ⁵ 72x489)2√3(9 ⁵ 73x493)2√3(9 ⁵ 74x497)2√3(9 ⁵ 75x501)2√3(9 ⁵ 76x505)2√3(9 ⁵ 77x509)2√3(9 ⁵ 78x513)2√3(9 ⁵ 79x517)2√3(9 ⁵ 80x521)2√3(9 ⁵ 81x525)2√3(9 ⁵ 82x529)2√3(9 ⁵ 83x533)2√3(9 ⁵ 84x537)2√3(9 ⁵ 85x541)2√3(9 ⁵ 86x545)2√3(9 ⁵ 87x549)2√3(9 ⁵ 88x553)2√3(9 ⁵ 89x557)2√3(9 ⁵ 90x561)2√3(9 ⁵ 91x565)2√3(9 ⁵ 92x569)2√3(9 ⁵ 93x573)2√3(9 ⁵ 94x577)2√3(9 ⁵ 95x581)2√3(9 ⁵ 96x585)2√3(9 ⁵ 97x589)2√3(9 ⁵ 98x593)2√3(9 ⁵ 99x597)2√3(9 ⁵ 100x601)2√3(9 ⁵ 101x605)2√3(9 ⁵ 102x609)2√3(9 ⁵ 103x613)2√3(9 ⁵ 104x617)2√3(9 ⁵ 105x621)2√3(9 ⁵ 106x625)2√3(9 ⁵ 107x629)2√3(9 ⁵ 108x633)2√3(9 ⁵ 109x637)2√3(9 ⁵ 110x641)2√3(9 ⁵ 111x645)2√3(9 ⁵ 112x649)2√3(9 ⁵ 113x653)2√3(9 ⁵ 114x657)2√3(9 ⁵ 115x661)2√3(9 ⁵ 116x665)2√3(9 ⁵ 117x669)2√3(9 ⁵ 118x673)2√3(9 ⁵ 119x677)2√3(9 ⁵ 120x681)2√3(9 ⁵ 121x685)2√3(9 ⁵ 122x689)2√3(9 ⁵ 123x693)2√3(9 ⁵ 124x697)2√3(9 ⁵ 125x701)2√3(9 ⁵ 126x705)2√3(9 ⁵ 127x709)2√3(9 ⁵ 128x713)2√3(9 ⁵ 129x717)2√3(9 ⁵ 130x721)2√3(9 ⁵ 131x725)2√3(9 ⁵ 132x729)2√3(9 ⁵ 133x733)2√3(9 ⁵ 134x737)2√3(9 ⁵ 135x741)2√3(9 ⁵ 136x745)2√3(9 ⁵ 137x749)2√3(9 ⁵ 138x753)2√3(9 ⁵ 139x757)2√3(9 ⁵ 140x761)2√3(9 ⁵ 141x765)2√3(9 ⁵ 142x769)2√3(9 ⁵ 143x773)2√3(9 ⁵ 144x777)2√3(9 ⁵ 145x781)2√3(9 ⁵ 146x785)2√3(9 ⁵ 147x789)2√3(9 ⁵ 148x793)2√3(9 ⁵ 149x797)2√3(9 ⁵ 150x801)2√3(9 ⁵ 151x805)2√3(9 ⁵ 152x809)2√3(9 ⁵ 153x813)2√3(9 ⁵ 154x817)2√3(9 ⁵ 155x821)2√3(9 ⁵ 156x825)2√3(9 ⁵ 157x829)2√3(9 ⁵ 158x833)2√3(9 ⁵ 159x837)2√3(9 ⁵ 160x841)2√3(9 ⁵ 161x845)2√3(9 ⁵ 162x849)2√3(9 ⁵ 163x853)2√3(9 ⁵ 164x857)2√3(9 ⁵ 165x861)2√3(9 ⁵ 166x865)2√3(9 ⁵ 167x869)2√3(9 ⁵ 168x873)2√3(9 ⁵ 169x877)2√3(9 ⁵ 170x881)2√3(9 ⁵ 171x885)2√3(9 ⁵ 172x889)2√3(9 ⁵ 173x893)2√3(9 ⁵ 174x897)2√3(9 ⁵ 175x901)2√3(9 ⁵ 176x905)2√3(9 ⁵ 177x909)2√3(9 ⁵ 178x913)2√3(9 ⁵ 179x917)2√3(9 ⁵ 180x921)2√3(9 ⁵ 181x925)2√3(9 ⁵ 182x929)2√3(9 ⁵ 183x933)2√3(9 ⁵ 184x937)2√3(9 ⁵ 185x941)2√3(9 ⁵ 186x945)2√3(9 ⁵ 187x949)2√3(9 ⁵ 188x953)2√3(9 ⁵ 189x957)2√3(9 ⁵ 190x961)2√3(9 ⁵ 191x965)2√3(9 ⁵ 192x969)2√3(9 ⁵ 193x973)2√3(9 ⁵ 194x977)2√3(9 ⁵ 195x981)2√3(9 ⁵ 196x985)2√3(9 ⁵ 197x989)2√3(9 ⁵ 198x993)2√3(9 ⁵ 199x997)2√3(9 ⁵ 200x1001)2√3(9 ⁵ 201x1005)2√3(9 ⁵ 202x1009)2√3(9 ⁵ 203x1013)2√3(9 ⁵ 204x1017)2√3(9 ⁵ 205x1021)2√3(9 ⁵ 206x1025)2√3(9 ⁵ 207x1029)2√3(9 ⁵ 208x1033)2√3(9 ⁵ 209x1037)2√3(9 ⁵ 210x1041)2√3(9 ⁵ 211x1045)2√3(9 ⁵ 212x1049)2√3(9 ⁵ 213x1053)2√3(9 ⁵ 214x1057)2√3(9 ⁵ 215x1061)2√3(9 ⁵ 216x1065)2√3(9 ⁵ 217x1069)2√3(9 ⁵ 218x1073)2√3(9 ⁵ 219x1077)2√3(9 ⁵ 220x1081)2√3(9 ⁵ 221x1085)2√3(9 ⁵ 222x1089)2√3(9 ⁵ 223x1093)2√3(9 ⁵ 224x1097)2√3(9 ⁵ 225x1101)2√3(9 ⁵ 226x1105)2√3(9 ⁵ 227x1109)2√3(9 ⁵ 228x1113)2√3(9 ⁵ 229x1117)2√3(9 ⁵ 230x1121)2√3(9 ⁵ 231x1125)2√3(9 ⁵ 232x1129)2√3(9 ⁵ 233x1133)2√3(9 ⁵ 234x1137)2√3(9 ⁵ 235x1141)2√3(9 ⁵ 236x1145)2√3(9 ⁵ 237x1149)2√3(9 ⁵ 238x1153)2√3(9 ⁵ 239x1157)2√3(9 ⁵ 240x1161)2√3(9 ⁵ 241x1165)2√3(9 ⁵ 242x1169)2√3(9 ⁵ 243x1173)2√3(9 ⁵ 244x1177)2√3(9 ⁵ 245x1181)2√3(9 ⁵ 246x1185)2√3(9 ⁵ 247x1189)2√3(9 ⁵ 248x1193)2√3(9 ⁵ 249x1197)2√3(9 ⁵ 250x1201)2√3(9 ⁵ 251x1205)2√3(9 ⁵ 252x1209)2√3(9 ⁵ 253x1213)2√3(9 ⁵ 254x1217)2√3(9 ⁵ 255x1221)2√3(9 ⁵ 256x1225)2√3(9 ⁵ 257x1229)2√3(9 ⁵ 258x1233)2√3(9 ⁵ 259x1237)2√3(9 ⁵ 260x1241)2√3(9 ⁵ 261x1245)2√3(9 ⁵ 262x1249)2√3(9 ⁵ 263x1253)2√3(9 ⁵ 264x1257)2√3(9 ⁵ 265x1261)2√3(9 ⁵ 266x1265)2√3(9 ⁵ 267x1269)2√3(9 ⁵ 268x1273)2√3(9 ⁵ 269x1277)2√3(9 ⁵ 270x1281)2√3(9 ⁵ 271x1285)2√3(9 ⁵ 272x1289)2√3(9 ⁵ 273x1293)2√3(9 ⁵ 274x1297)2√3(9 ⁵ 275x1301)2√3(9 ⁵ 276x1305)2√3(9 ⁵ 277x1309)2√3(9 ⁵ 278x1313)2√3(9 ⁵ 279x1317)2√3(9 ⁵ 280x1321)2√3(9 ⁵ 281x1325)2√3(9 ⁵ 282x1329)2√3(9 ⁵ 283x1333)2√3(9 ⁵ 284x1337)2√3(9 ⁵ 285x1341)2√3(9 ⁵ 286x1345)2√3(9 ⁵ 287x1349)2√3(9 ⁵ 288x1353)2√3(9 ⁵ 289x1357)2√3(9 ⁵ 290x1361)2√3(9 ⁵ 291x1365)2√3(9 ⁵ 292x1369)2√3(9 ⁵ 293x1373)2√3(9 ⁵ 294x1377)2√3(9 ⁵ 295x1381)2√3(9 ⁵ 296x1385)2√3(9 ⁵ 297x1389)2√3(9 ⁵ 298x1393)2√3(9 ⁵ 299x1397)2√3(9 ⁵ 300x1401)2√3(9 ⁵ 301x1405)2√3(9 ⁵ 302x1409)2√3(9 ⁵ 303x1413)2√3(9 ⁵ 304x1417)2√3(9 ⁵ 305x1421)2√3(9 ⁵ 306x1425)2√3(9 ⁵ 307x1429)2√3(9 ⁵ 308x1433)2√3(9 ⁵ 309x1437)2√3(9 ⁵ 310x1441)2√3(9 ⁵ 311x1445)2√3(9 ⁵ 312x1449)2√3(9 ⁵ 313x1453)2√3(9 ⁵ 314x1457)2√3(9 ⁵ 315x1461)2√3(9 ⁵ 316x1465)2√3(9 ⁵ 317x1469)2√3(9 ⁵ 318x1473)2√3(9 ⁵ 319x1477)2√3(9 ⁵ 320x1481)2√3(9 ⁵ 321x1485)2√3(9 ⁵ 322x1489)2√3(9 ⁵ 323x1493)2√3(9 ⁵ 324x1497)2√3(9 ⁵ 325x1501)2√3(9 ⁵ 326x1505)2√3(9 ⁵ 327x1509)2√3(9 ⁵ 328x1513)2√3(9 ⁵ 329x1517)2√3(9 ⁵ 330x1521)2√3(9 ⁵ 331x1525)2√3(9 ⁵ 332x1529)2√3(9 ⁵ 333x1533)2√3(9 ⁵ 334x1537)2√3(9 ⁵ 335x1541)2√3(9 ⁵ 336x1545)2√3(9 ⁵ 337x1549)2√3(9 ⁵ 338x1553)2√3(9
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The QUADRATURE of the CIRCLE.

The Negative Part consisting of $\frac{1}{3}\sqrt{3}$, and its Quotients, made by a continual Division by 9, and those again divided respectively by 3, 7, 11, 15, 19, 23, 27, &c. as is expressed against each.

(58)

$3x3) 2\sqrt{3}$	(3849 0017 9459 7505 0967 2765 8336 6797 1637 0984 0116 7513 4179 1724 5734 8843 2265 1782
$3x9x7)2\sqrt{3}$	(183 2857 9974 2738 3379 3941 2311 2704 6268 4332 5719 8453 0199 0082 5987 3754 4323 5799
$3x9^2x11)2\sqrt{3}$	(12 9596 0200 2011 8016 7248 3698 7766 9938 1720 4848 8779 506 45763 4160 7235 1623 7885
$3x9^3x15)2\sqrt{3}$	(1 0559 6757 0534 2949 5109 1264 3447 6809 7769 8712 8715 3671 9284 4264 9478 4200 3828
$3x9^4x19)2\sqrt{3}$	(926 2873 4257 3942 9395 1374 0653 3053 4892 0892 3571 5234 3796 8795 1708 6333 8932
$3x9^5x23)2\sqrt{3}$	(85 0215 4352 1279 7867 2232 4021 3178 8226 8101 2308 4973 2039 327 10543 3045 1400
$3x9^6x27)2\sqrt{3}$	(8 0473 0658 8433 8892 7824 4660 4539 5593 4840 8572 4092 1139 5247 8775 7037 1943
$3x9^7x31)2\sqrt{3}$	(7787 7160 5332 3118 6563 6580 0439 3121 9500 7281 2008 9142 5346 5637 9713 2769
$3x9^8x35)2\sqrt{3}$	(766 4101 5127 9418 0164 9949 1471 8053 2712 7700 6890 1153 7097 5988 3403 3542
$3x9^9x39)2\sqrt{3}$	(76 4226 6465 7491 8260 0422 2796 3338 6432 8403 2026 6781 7089 5041 5723 6820
$3x9^{10}x43)2\sqrt{3}$	(7 7015 0884 1452 6646 3608 4467 8475 9875 0924 3537 5722 1877 2368 5305 4873
$3x9^{11}x47)2\sqrt{3}$	(7828 9569 7830 8855 3038 2109 0246 9679 9739 3551 1007 2200 2864 8660 8415
$3x9^{12}x51)2\sqrt{3}$	(801 6579 0409 6985 1836 1566 7193 0446 5332 7879 9602 0464 9530 8271 1537
$3x9^{13}x55)2\sqrt{3}$	(82 5950 5678 5749 9886 1494 7528 9853 5822 1660 3595 3623 6618 3276 4219
$3x9^{14}x59)2\sqrt{3}$	(8 5550 4354 6546 6089 9024 8802 4367 6026 7780 2632 2880 0403 0282 8686
$3x9^{15}x63)2\sqrt{3}$	(8902 0735 3167 9892 9528 1621 4175 8175 6259 3219 2327 9054 2833 6671
$3x9^{16}x67)2\sqrt{3}$	(930 0673 8390 6854 4876 0766 4167 6227 3042 0187 0840 2289 2124 8607
$3x9^{17}x71)2\sqrt{3}$	(97 5188 0238 1469 8758 5244 6790 6584 0835 3916 3296 2368 3567 8180
$3x9^{18}x75)2\sqrt{3}$	(10 2575 3328 7532 3869 4151 6625 3877 7332 3152 6805 9745 4123 4297
$3x9^{19}x79)2\sqrt{3}$	(10820 1827 9275 5682 4277 6015 3362 6300 8771 3798 0985 8029 8977
$3x9^{20}x83)2\sqrt{3}$	(1144 3031 3337 0413 5365 3688 9528 4729 5033 5338 5253 4965
$3x9^{21}x87)2\sqrt{3}$	(121 2990 5500 6059 1615 9969 5205 8532 3924 0725 1383 2664 1637
$3x9^{22}x91)2\sqrt{3}$	(12 8852 4760 1376 2479 3549 8758 1309 3017 5754 6850 2370 9185
$3x9^{23}x95)2\sqrt{3}$	(1 3714 1231 7807 2965 6389 5189 4618 8847 4846 4050 7269 8872
$3x9^{24}x99)2\sqrt{3}$	(1462 2241 3324 2235 3936 0317 6193 9327 1728 8535 5504 6457
$3x9^{25}103)2\sqrt{3}$	(156 1598 5879 3830 9643 6538 7748 8666 0087 5474 6277 1952
$4046 4051 8592 3284 4370 6247 8274 1156 6280 4835 0483 7070 4457 1230 3380 4918 0109 2230$	

4046 4051 8592 3284 4370 6247 8274 5156 6280 4835 0483 7070 4457 1236 3286 4918 01692230

3x9⁵·x107)2/3(16 7024 5634 0357 8200 0273 6176 6700 5180 7034 1502 1299
 3x9⁷·x111)2/3(1 7889 5178 0198 4861 8948 2253 1568 5239 5748 4024 7527
 3x9³·x115, 2/3(1918 5859 8716 9390 9858 2154 6863 8706 8529 5388 1619
 3x9⁵·x119)2/3(2060106 3139 5466 1282 6281 7823 8516 6888 6059 4198
 3x9³·x123)2/3(22 1456 7762 9677 8042 1253 4165 3462 9416 9223 4607
 3x9³·x127)2/3(2 3831 3066 3461 1285 3730 6826 1921 2089 4861 5798
 3x9³·x131)2/3(2567 0703 5006 1605 8035 4509 6916 0250 5214 0972
 3x9³·x135)2/3(276 7787 7848 4008 5269 6659 0696 2957 0521 0261
 3x9⁴·x139)2/3(29 8682 1310 1468 5460 7553 1370 1038 7308 0244
 3x9³·x143)2/3(3 2258 5988 9091 0084 7280 4087 3694 1481 3639
 3x9³·x147)2/3(34 86 7570 9856 3977 4120 2558 1963 9166 6932
 3x9³·x151)2/3(377 1547 4134 5772 3911 4625 5002 7194 6313
 3x9³·x155)2/3(40 8246 3508 4739 5204 7532 9394 5595 9780
 3x9³·x159)2/3(4 4219 5558 2204 4903 3799 8641 6189 6412
 3x9⁴·x163)2/3(4792 7125 9420 9365 8060 1079 7664 7259
 3x9⁴·x167)2/3(519 7085 6477 4535 3468 9272 1237 0927
 3x9⁴·x171)2/3(56 4011 3730 8217 9356 2773 5182 9724
 3x9³·x175)2/3(6 1235 5205 0606 5187 2529 6962 7227
 3x9⁴·x179)2/3(6651 9032 2070 8508 8573 9893 5298
 3x9⁴·x183)2/3(722 9451 5877 7670 3615 5694 6824
 3x9⁴·x187)2/3(78 0090 1013 4470 3958 1926 5163
 3x9⁴·x191)2/3(8 5514 1646 0236 1628 9598 7542
 3x9⁴·x195)2/3(9366 6697 6584 1066 1717 0154
 3x9⁴·x199)2/3(1013 2890 0298 1020 6049 5913
 3x9⁵·x203)2/3(110 3691 9080 0888 3964 8980
 3x9⁵·x207)2/3(12 0262 7253 4933 0888 2846
 3x9⁵·x211)2/3(1 3109 2070 2860 0049 4339
 3x9⁵·x215)2/3(1429 4794 2275 6904 6152
 1750296 7648 3643 1895

And we are assured, that the last Figure of this great Number is true; the whole having been independently wrought over again by the curious Hand of Mr. *John Machin*, whose early Performances testify a Genius capable of all things in the Mathematics.

3x9⁵·x219)2/3(155 9300 2328 3985 0291
 3x9⁵·x223)2/3(170147 8579 9298 8148
 3x9⁵·x227)2/3(18572 1842 0579 3616
 3x9⁵·x231)2/3(2027 8431 0472 1092
 3x9⁵·x235)2/3(221 4807 3626 0318
 3x9⁵·x239)2/3(24 1971 0507 7255
 3x9⁶·x243)2/3(2 6443 1098 0093
 3x9⁶·x247)2/3(2890 5423 6690
 3x9⁶·x251)2/3(316 0531 0519
 3x9⁶·x255)2/3(34 5661 5660
 3x9⁶·x259)2/3(3 7813 6848
 3x9⁶·x263)2/3(4137 6191
 3x9⁶·x267)2/3(452 8480
 3x9⁶·x271)2/3(49 5738
 3x9⁶·x275)2/3(5 4281
 3x9⁶·x279)2/3(5945
 3x9⁷·x283)2/3(651
 71
 2

The Negative: —4046 4051 8592 3284 4370 6247 8293 2220 1223 9418 8825 7513 7218 0916 5236 0892 2678 2075
 Sum of Affirmative: +3 5462 3317 2182 1216 8216 8891 2126 0170 4108 1390 5765 6888 8276 3014 0180 6815 3459 8480
 3 1415 9265 3589 7932 3846 2643 3832 7950 2884 1971 6939 9375 1058 2097 4944 5923 0781 6405

The QUADRATURE of the CIRCLE, from the Tangent of 18 Degrees.

The Odd Powers.

$\text{Tan. } 18 \text{ deg.} = \sqrt{1-2\sqrt{\frac{1}{2}}}$
 A better Expedi-
 ent for finding the
 Length of the Circu-
 lar Arch is offered
 by the Tangent of 18
 deg. then upon the
 first view it may ap-
 pear, allowing for
 the Labour of Ex-
 tracting two Square
 Roots (because the
 Tangent of 18 deg. =
 $\frac{a}{a^2} = \sqrt{1-2\sqrt{\frac{1}{2}}}$) and
 a Multiplication, or
 another Extraction,
 (one of which is un-
 avoidable) for ob-
 taining the Cube =
 aaa , since it resolves
 it self into this E-
 quation $2aa - a^3 = \frac{1}{2}$
 Yet this Entrance be-
 ing made, the Pow-
 ers are raised with
 greater Ease than in
 any other Method
 except Mr. Halley's
 for $a^3 = aa - \frac{1}{2}$ (the

The Affirmative Powers divided by 1, 5, 9, 13, 17, 21, &c.
 3. 249196962329063261558714122151344569549034731
 5) 724286162988535672830272005494074451904652
 9) 44847871641543405408481245871061572480294
 13) 3460510167192227359522808642923229277
 17) 294948306490379835495643018002408074
 21) 26611999991031602991178464699913091
 25) 24915003634123509842187141700967
 29) 2393906148368492179549393484138
 33) 234474345323374856877380094
 37) 233083191819956802514608473
 41) 234410854431658150349437
 45) 2380724934614833932364
 49) 24368567512481740202
 53) 2511043134618267422
 57) 26023118608793215
 61) 27102447760667
 65) 2834843893199
 69) 29764429899
 73) 313565269
 77) 3313327
 81) 35105
 85) 373
 89) 4

The Sum $\frac{1}{2} + 3.25648502086193810772157210460030266929004274$
 The Arch of 18 deg. = $\frac{1}{2} \sqrt{1-2\sqrt{\frac{1}{2}}}$ of the Semiperiphery = $3.141592653589793238462643383279502884197109399$
 The Square Root of $\frac{1}{2} = \sqrt{\frac{1}{2}} = .70710678118654752440084436210484957618781211484836956849572708052782731894875$
 Hence $aa = 1 - 2\sqrt{\frac{1}{2}} = 1 - \sqrt{2} = .41421356237309504880169872156670670149817$
 and $\frac{1}{2} + 2\sqrt{\frac{1}{2}} = \frac{1}{2} + \sqrt{2} = 1.70710678118654752440084436210484957618781211484836956849572708052782731894875$

The QUADRATURE of the CIRCLE, from the Tangent of 18 Degrees.

The Odd Powers

The Negative Powers divided by 3, 7, 11, 15, 19, &c.

reciprocal $\frac{1}{a}$ is
the Tangent of
72 deg $\sqrt{v} : 5$
 $\frac{1}{2\sqrt{v}} = 3.07$
768. 35371.
7553. 40257.
02905. 76036.
90982. 40067.
02143 ;) the
5th Power a^5
 $2a^5 = \frac{1}{5}a$, or
which is rea-
dier for Use $\frac{1}{5}$
 $a^5 = a^3 - \frac{1}{5}a$,
the 7th Power
 $a^7 = 2a^5 - \frac{1}{5}a^3$,
rather $\frac{1}{2}a^7 = a^5$
 $-\frac{1}{10}a^3$, & $\frac{1}{10}a^3$
 $= a^7 - \frac{1}{5}a^5$, &c
so that the Dif-
ference of any
Power, and the
tenth Part of
the next less
is $\frac{1}{10}$ half, the
next greater ; divide every Power by its proper Index, and subtract the Sum of every second, viz. the 3d, 7th, 11th, 15th, 19th, 23d,
&c. from the Sum of the 1st, 5th, 9th, 13th, 17th, &c. the Remainder is one tenth part of the Semiperiphery.

$a^1 = 3430268503076197179768479922288696510846651523$	$a^{-1} = 0.114342283435873339325615697409632217028221717$
$a^2 = 382324623732062368853301609166814302113645$	$a^{-2} = 7) 54617803390423195504757372738116328873378$
$a^3 = 4261244208185659646002103845745444222565$	$a^{-3} = 11) 387385837107786905872746398597685856588$
$a^4 = 474942001498607184275509478011027116689$	$a^{-4} = 15) 3166280009991145618367298533068474446$
$a^5 = 52935221209394775174996700987981179$	$a^{-5} = 19) 2786064274178672956577737362097430$
$a^6 = 589957543543181527950211512637955$	$a^{-6} = 23) 2565198931975296316500091962016503$
$a^7 = 65758672997543293608934059772424$	$a^{-7} = 27) 2435064073164182822553113324905$
$a^8 = 7329210494285959172078010125545$	$a^{-8} = 31) 236426144976966424905742262114$
$a^9 = 81688580412135571123474061065$	$a^{-9} = 35) 2333959440346730603527830316$
$a^{10} = 910469712249689161386214812$	$a^{-10} = 39) 23345377237171516958620893$
$a^{11} = 10147747613458136051410882$	$a^{-11} = 43) 23599413054538047707230$
$a^{12} = 113102918461723329630582$	$a^{-12} = 47) 2406445073653687864480$
$a^{13} = 1260601923878544613659$	$a^{-13} = 51) 24717684781932247327$
$a^{14} = 14050187493827423949$	$a^{-14} = 55) 255457954433225890$
$a^{15} = 156598022636941669$	$a^{-15} = 59) 2654203773507486$
$a^{16} = 174538173983051$	$a^{-16} = 63) 27704472061794$
$a^{17} = 19453358127317$	$a^{-17} = 67) 290348628915$
$a^{18} = 216819698619$	$a^{-18} = 71) 3053798572$
$a^{19} = 2416589535$	$a^{-19} = 75) 32221194$
$a^{20} = 26934384$	$a^{-20} = 79) 340942$
$a^{21} = 300200$	$a^{-21} = 83) 3617$
$a^{22} = 3346$	$a^{-22} = 87) 38$
$a^{23} = 37$	

The Sum $\frac{1}{10} = 0.114892367272144869258928720780527382731894875$

The QUADRATURE of the CIRCLE

The Negative Part consisting of $\frac{1}{3}\sqrt{3}$, and its Quotients, made by a continual Division by 9, and those again divided respectively by 3, 7, 11, 15, 19, 23, 27, &c. as is expressed against each:

$3x3) 2\sqrt{3} (384903179859750509672765853667971637098401167513417917345734884322651782$
 $3x9x7)2\sqrt{3} (18328579974273833793941231127046268433257198453019905825987375443231799$
 $3x9^2x11)2\sqrt{3} (1295960200201180167248369877669938172048487795064576341607235162317885$
 $3x9^3x15)2\sqrt{3} (105596757053429495109126434476809776981728715367192844264947842003828$
 $3x9^4x19)2\sqrt{3} (926287342573942939553746533053489208923571523437968795170863338932$
 $3x9^5x23)2\sqrt{3} (850215435212797867223240213178822681012308497320393271054330451400$
 $3x9^6x27)2\sqrt{3} (80473065884338892782446604539559348408572409211395247877570371943$
 $3x9^7x31)2\sqrt{3} (7787716053323118656365800439312195007281200891425346568797132769$
 $3x9^8x35)2\sqrt{3} (76641015127941802649491471805327127700689611537097598834033542$
 $3x9^9x39)2\sqrt{3} (76422664657491826004222796333864528403202667817089504157236820$
 $3x9^{10}x43)2\sqrt{3} (7701508841452664636084467847598750924333757221877236853054873$
 $3x9^{11}x47)2\sqrt{3} (7828956978308855303831090246967997393511007220028648608415$
 $3x9^{12}x51)2\sqrt{3} (801657904096985183615667193044653277996020464953082711537$
 $3x9^{13}x55)2\sqrt{3} (8259505678574998861494752898035822166035953623661832764219$
 $3x9^{14}x59)2\sqrt{3} (855504354654660899024880243676026778026322880040302828686$
 $3x9^{15}x63)2\sqrt{3} (890207353167982952816214175817525932192327905428336671$
 $3x9^{16}x67)2\sqrt{3} (930067383906854487607664167627304201870840228023248607$
 $3x9^{17}x71)2\sqrt{3} (97518802814698758524467906584083539163296326835678183$
 $3x9^{18}x75)2\sqrt{3} (10257532875323869415166253877733231526805974541234297$
 $3x9^{19}x79)2\sqrt{3} (10820182792755682427760153362630087713798098580298977$
 $3x9^{20}x83)2\sqrt{3} (1144303133370413536536883688952847295033533852534965$
 $3x9^{21}x87)2\sqrt{3} (121399055006059161599695805853230240725138326641617$
 $3x9^{22}x91)2\sqrt{3} (12885247601376247935498758130930175754685023709185$
 $3x9^{23}x95)2\sqrt{3} (1371412317807296563595189461888474846405072698872$
 $3x9^{24}x99)2\sqrt{3} (146222413234223539360317619393271728853515046457$
 $3x9^{25}103)2\sqrt{3} (15615983879383096436538774886660087547462771952$
 $40464051859232844370624782741566280483504837070445712303280491801092230$

Let the Tangent of 15 Degrees be $a = 2 - \sqrt{3} = 0.2679491924^2$
 3112270647255 + its Square aa is $= 4a - 1$, the Cube $aaa =$
 $4aa - a$, i. e. $= 15a - 4$; The fifth Power $a^5 = 15a^3 - 4aa$,
i. e. $= 15a^3 - 16a + 4$, i. e. $= 14a^3 - a$: The 7th Power $a^7 =$
 $14a^5 - a^3$, the 9th Power $a^9 = 14a^7 - a^5$, so that none but the
Odd Powers need be made, any of which are rais'd by multiplying
the next less by 14, and deducting the preceding, &c. *ut supra*.

The Odd Powers.

$a = 2 - \sqrt{3} = 0.267949192431122706472553658$
 $a^3 = 1381218104645652763714625$
 $a^5 = 7119870133929688083644$
 $a^7 = 36701336706724512389$
 $a^9 = 189187174867319875$
 $a^{11} = 975217535543331$
 $a^{13} = 5027628086313$
 $a^{15} = 25213204444$
 $a^{17} = 133576768$
 $a^{19} = 688558$
 $a^{21} = 2549$

The Affirmative Powers divided by

1, 5, 9, 13, 17, 21, 25, &c.
 $2679.4919.2431.1227.0647.2553.658$
 $5) 2.7624.3620.9291.3055.2742.925$
 $9) 79.1096.6815.4774.3120.405$
 $13) 2823.1797.4667.1116.338$
 $17) 11.1286.5734.5136.463$
 $21) 464.3893.0263.968$
 $25) 2.0103.1123.452$
 $29) 89.3558.774$
 $33) 4047.781$
 $37) 18.610$
 $41) 86$

+ 2682.2622.9983.0884.2969.3682.460
 - 64.2684.2183.9389.9315.5128.844

The Arch of 15 Degrees 2617.9938.7799.1494.3653.8553.616
 Which drawn into 12 is the Semiperiphery 3.1415.9265.3589.7932.3846.2643.392

The Odd Powers

$a^3 = 19237886466840597088304877$
 $a^5 = 99166998198541603699876$
 $a^7 = 511183676474029471145$
 $a^9 = 2635037420113702305$
 $a^{11} = 13583028028775943$
 $a^{13} = 70017468830689$
 $a^{15} = 360924377845$
 $a^{17} = 1860484372$
 $a^{19} = 9590380$
 $a^{21} = 49436$
 $a^{23} = 255$

The Negative Powers, divided by

3, 7, 11, 15, 19, 23, &c.
 $3) 0064.1262.8822.2801.9902.9434.959$
 $7) 1416.6714.0283.6308.6242.839$
 $11) 4.6471.2433.1582.0861.013$
 $15) 175.6691.6134.0913.487$
 $19) 7148.9621.2040.839$
 $23) 30.4423.7775.247$
 $27) 1336.7569.550$
 $31) 6.0015.625$
 $35) 274.011$
 $39) 1.268$
 $43) 6$

- 0064.2684.2183.9389.9315.5128.844

The raising these Powers is still somewhat more troublesome, yet
 not above one third part are required.

Tho' no other Method of obtaining the Quadrature of the Circle
 can be expected equalling that of Mr. Halley's by $\sqrt{12}$ in Facility
 and Exactness, yet the Three preceeding deduced from the same Prin-
 ciples may perhaps exceed any other yet discovered, and serve for a
 Confirmation as far as they extend.

The

Another easy Method to find the Quadrature of the Circle, from $\sqrt{12} = 2\sqrt{3} = 3.46410161513773458705489216830117447338856105076207612561116139589038660338176000741622923735144971513.1$

I. Divide $\sqrt{12}$ continually by 9, which will give all the Powers necessary for this Purpose.

II. Multiply those Powers respectively by this Series of Arithmetical Proportionals $\frac{1}{3}, \frac{1}{6}, 8, \frac{11}{3}, \frac{16}{3}, 16, \&c.$ whose common Difference is $\frac{1}{3}$, or if $\sqrt{12} \times \frac{1}{3} = 9.237604$, &c. be had, that whole Series may be obtained by a successive Division by $\frac{2}{3}, \frac{1}{3}, \frac{11}{6}, \frac{16}{3}, \&c.$ as is express'd in () before each.

III. Divide each of those Products respectively by this Series $3, 35 = 5 \times 7, 99 = 9 \times 11, 195 = 13 \times 15, 323 = 17 \times 19, \&c.$ whose second Difference is 32 (as is better explained by inspecting the following Ranks of Numbers then in Words) the Sum of all these Quotients is the Semiperiphery of the Circle.

$$\begin{array}{r}
 \sqrt{12} = 2\sqrt{3} = 3.46410161513773456 \times \frac{1}{3} = (\frac{1}{3}) 9.2376043070340122 \text{ Diff. } 1 \times 3 = 3) 3.0792, 0143, 5678, 0041 \\
 9) 2\sqrt{3} (3849.001794597505 \times \frac{1}{6} = (\frac{1}{6}) 2.0528, 0095, 7118, 6694, (32) 5 \times 7 = 35) 586, 5145, 5917, 6763 \\
 81 = 9^2) 2\sqrt{3} (427.6668.6606.6389 \times 8 = (\frac{8}{1}) 3421, 3349, 2853, 1116 (64) 9 \times 11 = 99) 34, 5589, 3867, 2031 \\
 729 = 9^3) 2\sqrt{3} (47.5185.4067.4043 \times \frac{8}{3} = (\frac{16}{3}) 506, 8644, 3385, 6462 (96) 13 \times 15 = 195) 2, 5993, 0478, 9007 \\
 6.561 = 9^4) 2\sqrt{3} (5.2798.3785.2671 \times \frac{4}{3} = (\frac{4}{3}) 70, 3978, 3803, 5620, (128) 17 \times 19 = 323) 2179, 4996, 2959 \\
 59.049 = 9^5) 2\sqrt{3} (586.4865.0297 \times 16 = (\frac{16}{1}) 9, 3863, 7840, 4749 (160) 21 \times 23 = 483) 194, 3349, 5662 \\
 531.441 = 9^6) 2\sqrt{3} (651.8318.3366 \times \frac{16}{3} = (\frac{32}{3}) 1, 2167, 5275, 6171 (192) 25 \times 27 = 675) 18, 0259, 6676 \\
 4.782.969 = 9^7) 2\sqrt{3} (72.4257.5930 \times \frac{4}{3} = (\frac{16}{3}) 1545, 0828, 6498 (224) 29 \times 31 = 899) 1, 7186, 6837 \\
 43.046, 721 = 9^8) 2\sqrt{3} (80473.0659 \times 24 = (\frac{24}{1}) 193, 1353, 5812 (256) 33 \times 35 = 1155) 1672, 1676 \\
 387, 420, 489 = 9^9) 2\sqrt{3} (8941, 4518 \times \frac{16}{3} = (\frac{32}{3}) 23, 8438, 7137 (288) 37 \times 39 = 1443) 165, 2382 \\
 3, 486, 784, 401 = 9^{10}) 2\sqrt{3} (993, 4946 \times \frac{8}{3} = (\frac{8}{3}) 2, 9142, 5095 (320) 41 \times 43 = 1763) 16, 5301 \\
 31, 381, 059, 609 = 9^{11}) 2\sqrt{3} (110, 3883 \times 32 = (\frac{32}{1}) 3532, 4154 (352) 45 \times 47 = 2115) 1, 6702 \\
 282, 429, 536, 481 = 9^{12}) 2\sqrt{3} (12, 2654 \times \frac{16}{3} = (\frac{16}{3}) 425, 1994 (384) 49 \times 51 = 2499) 1701 \\
 2, 541, 865, 828, 329 = 9^{13}) 2\sqrt{3} (1, 3628 \times \frac{16}{3} = (\frac{16}{3}) 50, 8786 (416) 53 \times 55 = 2915) 174 \\
 22, 876, 792, 454, 961 = 9^{14}) 2\sqrt{3} (1514 \times 40 = (\frac{40}{1}) 6, 0570 (448) 57 \times 59 = 3363) 18 \\
 205, 891, 132, 094, 649 = 9^{15}) 2\sqrt{3} (168 \times \frac{16}{3} = (\frac{16}{3}) 7, 179 (480) 61 \times 63 = 3843) 2
 \end{array}$$

The Sum = 3,1415,9265,3589,7932

Math.

Mathematical TABLES,

Contrived after a most *Comprehensive Method*:

VIZ.

A TABLE of *Logarithms*, from 1 to 101000.
To which is added (upon the same Page) The
Differences and *Proportional Parts*, whereby the
LOGARITHM of any Number under 10,000,000
may easily be found.

TABLES of *Natural Sines*, *Tangents*, and
Secants, with their LOGARITHMS, and *Logarithmetick*
Differences to every Minute of the Quadrant.

TABLES of *Natural Versed Sines*, and their
Logarithms, to every Minute of the Quadrant.

A N D

A TABLE of Difference of *Latitude* and
Departure to every Degree and Quarter-Point of the
COMPASS: The Radius 10000.

L O N D O N:

Printed for *Thomas Page*, *William and Fisher Mount*,
at the *Postern* on *Tower-Hill*, 1726.

Num. o. L. o

Logarithms.

N.	Logar.	N.	Logar.	Num.	Log.	Num.	Log.	Num.	Log.
				Index 2		Index 2		Ind. 2	
0		50	1.6989700	05	0000000	150	1760913	205	3010300
1	0.0000000	51	1.7075702	101	43214	151	89765	201	31951
2	0.3010300	52	1.7160033	102	86202	152	1818436	202	33514
3	0.4771213	53	1.7242759	103	0128372	153	46914	203	74960
4	0.6020600	54	1.7323938	104	70333	154	75207	204	96302
5	0.6989700	55	1.7403527	105	0211893	155	1903317	205	3117539
6	0.7781513	56	1.7481880	106	53059	156	31246	206	38672
7	0.8450980	57	1.7558749	107	93838	157	58997	207	59703
8	0.9030900	58	1.7634280	108	0334238	158	86571	208	80633
9	0.9542425	59	1.7708520	109	74265	159	2013971	209	3201463
10	1.0000000	60	1.7781513	110	0413927	160	41200	210	22193
11	1.0413927	61	1.7853298	111	53230	161	68259	211	42825
12	1.0791812	62	1.7923917	112	92180	162	95150	212	63359
13	1.1139434	63	1.7993405	113	0530784	163	2121876	213	83796
14	1.1461280	64	1.8061800	114	69049	164	48438	214	3304138
15	1.1760913	65	1.8129134	115	0605978	165	74839	215	24385
16	1.2041200	66	1.8195439	116	44580	166	2201081	216	44538
17	1.2304489	67	1.8260748	117	81859	167	27165	217	64597
18	1.2552725	68	1.8325089	118	0718820	168	53093	218	84565
19	1.2787536	69	1.8388491	119	55470	169	78867	219	3404441
20	1.3010300	70	1.8450980	120	91812	170	2304489	220	24227
21	1.3222193	71	1.8512583	121	0827854	171	29961	221	43923
22	1.3424227	72	1.8573325	122	63598	172	55284	222	63530
23	1.3617278	73	1.8633229	123	99051	173	80461	223	83049
24	1.3802112	74	1.8692317	124	0934217	174	2405492	224	3502480
25	1.3979400	75	1.8750613	125	69100	175	30380	225	21825
26	1.4149733	76	1.8808136	126	1003705	176	55127	226	41084
27	1.4313638	77	1.8864907	127	38037	177	79733	227	60259
28	1.4471580	78	1.8920946	128	72100	178	2504200	228	79348
29	1.4623980	79	1.8976271	129	1105897	179	28530	229	98355
30	1.4771213	80	1.9030900	130	39434	180	52725	230	3617278
31	1.4913617	81	1.9084850	131	72713	181	76786	231	36120
32	1.5051500	82	1.9138139	132	1205739	182	2600714	232	54880
33	1.5185139	83	1.9190781	133	38516	183	24511	233	73559
34	1.5314789	84	1.9242792	134	71048	184	48178	234	92159
35	1.5440680	85	1.9294189	135	1303338	185	71717	235	3710679
36	1.5563025	86	1.9344985	136	35389	186	95129	236	29120
37	1.5682017	87	1.9395193	137	67206	187	2718416	237	47483
38	1.5797836	88	1.9444827	138	98791	188	41578	238	65770
39	1.5910646	89	1.9493900	139	1430148	189	64618	239	83979
40	1.6020600	90	1.9542425	140	61280	190	87536	240	3802112
41	1.6127839	91	1.9590414	141	92191	191	2810334	241	20170
42	1.6232403	92	1.9637878	142	1522883	192	33012	242	38154
43	1.6334685	93	1.9684829	143	53360	193	55573	243	56053
44	1.6434527	94	1.9731279	144	83625	194	78017	244	73898
45	1.6532125	95	1.9777236	145	1613680	195	2900341	245	91661
46	1.6627578	96	1.9822712	146	43529	196	22561	246	3909351
47	1.6720979	97	1.9867717	147	73173	197	44662	247	26970
48	1.6812412	98	1.9912261	148	1702617	198	66652	248	44517
49	1.6901961	99	1.9956352	149	31863	199	88531	249	61993

to 101000

N. 250 L 39

Num Log.	Num Log.	Num Log.	Num Log.	Num Log.
Ind. 2	Ind. 2	Ind. 2	Ind. 2	Ind. 2
250 3979400	300 4771213	350 5440680	400 5020600	450 6532125
251 96737	301 85665	351 53071	401 31414	451 41765
252 4014005	302 4800069	352 65427	402 42261	452 51384
253 31205	303 14426	353 77747	403 53050	453 60982
254 48337	304 28736	354 90033	404 63814	454 70559
255 65402	305 42998	355 5502284	405 74550	455 80114
256 82400	306 57214	356 14500	406 85260	456 89648
257 99331	307 71384	357 26682	407 95944	457 99162
258 4116197	308 85507	358 38850	408 6106602	458 6508655
259 32998	309 99585	359 50944	409 17233	459 18127
260 49733	310 4913617	360 63025	410 27839	460 27578
261 66405	311 27604	361 75072	411 38418	461 37009
262 83013	312 41546	362 87086	412 48972	462 46420
263 99557	313 55443	363 99066	413 59501	463 55810
264 4216039	314 69296	364 5611014	414 70003	464 65180
265 32459	315 83106	365 22929	415 80481	465 74530
266 48816	316 96871	366 34811	416 90933	466 83859
267 65113	317 5010593	367 46661	417 6201361	467 93169
268 81348	318 24271	368 58478	418 11763	468 6702459
269 97523	319 37907	369 70264	419 22140	469 11728
270 4313638	320 51500	370 82017	420 32493	470 20979
271 29693	321 65050	371 93739	421 42821	471 30209
272 45689	322 78559	372 5705429	422 53125	472 39420
273 61626	323 92025	373 17088	423 63404	473 48611
274 77506	324 5105450	374 28716	424 73659	474 57783
275 93327	325 18834	375 40313	425 83889	475 66936
276 4409091	326 32176	376 51878	426 94096	476 76070
277 24798	327 45478	377 63414	427 6304279	477 85184
278 40448	328 58738	378 74918	428 14438	478 94279
279 56042	329 71959	379 86392	429 24573	479 6803355
280 71580	330 85139	380 97836	430 34685	480 12412
281 87063	331 98280	381 5809250	431 44773	481 21451
282 4502491	332 5211381	382 20634	432 54837	482 30470
283 17864	333 24442	383 31988	433 64879	483 39471
284 33183	334 37465	384 43312	434 74897	484 48454
285 48449	335 50448	385 54607	435 84893	485 57417
286 63660	336 63393	386 65873	436 94865	486 66363
287 78819	337 76299	387 77110	437 6404814	487 75290
288 93925	338 89167	388 88317	438 14741	488 84198
289 4608078	339 5301997	389 99496	439 24645	489 93289
290 23980	340 14789	390 5910646	440 34527	490 6901961
291 38930	341 27544	391 21768	441 44386	491 40815
292 53829	342 40261	392 32861	442 54223	492 19651
293 68676	343 52941	393 43926	443 64037	493 28469
294 83473	344 65584	394 54962	444 73830	494 37269
295 98220	345 78191	395 65971	445 83600	495 46052
296 4712917	346 90761	396 76952	446 93349	496 54817
297 27564	347 5403295	397 87905	447 6503075	497 63564
298 42163	348 15792	398 98831	448 12780	498 72253
299 56712	349 28254	399 6009729	449 22463	499 81005

Num	Log.	Num	Log.	Num	Log.	Num	Log.	Num	Log.
	Ind. 2		Ind. 2		Ind. 2		Ind. 2		Ind. 2
500	5989700	550	7403627	600	7781513	650	8129134	700	8450980
501	98377	551	11516	601	88745	651	35810	701	57180
502	7007037	552	19391	602	95965	652	42476	702	63371
503	15680	553	27251	603	7803173	653	49132	703	69553
504	24305	554	35098	604	10369	654	55777	704	75727
505	32914	555	42930	605	17554	655	62413	705	81891
506	41505	556	50748	606	24726	656	69038	706	88047
507	50080	557	58552	607	31887	657	75654	707	94194
508	58637	558	66342	608	39036	658	82259	708	8500333
509	67178	559	74118	609	46173	659	88854	709	06462
510	75702	560	81880	610	53298	660	95439	710	12583
511	84209	561	89629	611	60412	661	8202015	711	18696
512	92700	562	97363	612	67514	662	08580	712	24800
513	7101174	563	7505084	613	74605	663	15135	713	30895
514	09631	564	12791	614	81684	664	21681	714	36982
515	18072	565	20484	615	88751	665	28216	715	43060
516	26497	566	28164	616	95807	666	34742	716	49130
517	34905	567	35831	617	7902852	667	41258	717	55192
518	43298	568	43483	618	09885	668	47765	718	61244
519	51674	569	51123	619	16906	669	54261	719	67289
520	60033	570	58749	620	23917	670	60748	720	73325
521	68377	571	66361	621	30916	671	67225	721	79353
522	76705	572	73960	622	37904	672	73693	722	85372
523	85017	573	81546	623	44880	673	80151	723	91383
524	93313	574	89119	624	51846	674	86599	724	97386
525	7201593	575	96678	625	58800	675	93038	725	8603380
526	09857	576	7604225	626	65743	676	99467	726	09366
527	18106	577	11758	627	72675	677	8305887	727	15344
528	26339	578	19278	628	79596	678	12297	728	21314
529	34557	579	26786	629	86506	679	18698	729	27275
530	42759	580	34280	630	93405	680	25089	730	33229
531	50945	581	41761	631	8000294	681	31471	731	39174
532	59116	582	49230	632	07171	682	37844	732	45111
533	67272	583	56686	633	14037	683	44207	733	51040
534	75413	584	64128	634	20893	684	50561	734	56961
535	83538	585	71559	635	27737	685	56906	735	62873
536	91648	586	78976	636	34571	686	63241	736	68778
537	99743	587	86381	637	41394	687	69567	737	74675
538	7307823	588	93773	638	48207	688	75884	738	80564
539	15888	589	7701153	639	55009	689	82192	739	86444
540	23938	590	08520	640	61800	690	88491	740	92317
541	31973	591	15875	641	68580	691	94780	741	98162
542	39993	592	23217	642	75350	692	3401061	742	8704039
543	47998	593	30547	643	82110	693	07332	743	09888
544	55989	594	37864	644	88859	694	13595	744	15729
545	63965	595	45170	645	95597	695	19848	745	21563
546	71926	596	52463	646	8102325	696	26092	746	27388
547	79873	597	59743	647	09043	697	32328	747	33206
548	87806	598	67012	648	15750	698	38554	748	39016
549	95723	599	74268	649	22447	699	44772	749	44818

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751	56399	801	36325	851	99296	901	47248	951	81805
752	62178	802	41744	852	9304596	902	52065	952	86369
753	67950	803	47155	853	09490	903	56878	953	90929
754	73713	804	52560	854	14579	904	61684	954	95484
755	79470	805	57959	855	19661	905	66486	955	9802034
756	85218	806	63350	856	24738	906	71282	956	04579
757	90959	807	68735	857	29808	907	76073	957	09119
758	96692	808	74114	858	34873	908	80858	958	13655
759	8802418	809	79485	859	39932	909	85639	959	18186
760	08136	810	84850	860	44985	910	90414	960	22712
761	13847	811	90209	861	50032	911	95184	961	27224
762	19550	812	95560	862	55073	912	99948	962	31751
763	25245	813	9100905	863	60108	913	9604708	963	36263
764	30934	814	06244	864	65137	914	09462	964	40770
765	36614	815	11576	865	70161	915	14211	965	45273
766	42288	816	16902	866	75179	916	18955	966	49771
767	47954	817	22221	867	80191	917	23693	967	54265
768	53612	818	27533	868	85197	918	28427	968	58754
769	59263	819	32839	869	90198	919	33155	969	63238
770	64907	820	38139	870	95193	920	37878	970	67717
771	70544	821	43432	871	9400182	921	42596	971	72192
772	76173	822	48718	872	05165	922	47309	972	76663
773	81795	823	53998	873	10142	923	52017	973	81128
774	87410	824	59272	874	15114	924	56720	974	85590
775	93017	825	64539	875	20081	925	61417	975	90046
776	98617	826	69800	876	25041	926	66110	976	94498
777	8904210	827	75055	877	29956	927	70797	977	98946
778	09796	828	80303	878	34945	928	75480	978	9903389
779	15375	829	85545	879	39889	929	80157	979	07827
780	20946	830	90781	880	44827	930	84829	980	12261
781	26510	831	96010	881	49759	931	89457	981	16690
782	32068	832	9201233	882	54686	932	94159	982	21115
783	37618	833	06450	883	59607	933	98816	983	25535
784	43161	834	11661	884	64523	934	9703469	984	29951
785	48697	835	16865	885	69433	935	08116	985	34362
786	54225	836	22063	886	74337	936	12758	986	38769
787	59747	837	27255	887	79236	937	17396	987	43172
788	65262	838	32440	888	84130	938	22028	988	47569
789	70770	839	37620	889	89018	939	26656	989	51963
790	76271	840	42793	890	93900	940	31279	990	56352
791	81765	841	47960	891	98777	941	35806	991	60737
792	87252	842	53121	892	9503649	942	40509	992	65117
793	92732	843	58276	893	08515	943	45117	993	69492
794	98205	844	63424	894	13375	944	49720	994	73864
795	9003671	845	68567	895	18230	945	54318	995	78231
796	09131	846	73704	896	23080	946	58511	996	82593
797	14583	847	78834	897	27924	947	63500	997	86952
798	20029	848	83959	898	32763	948	68083	998	91305
799	25468	849	89077	899	37597	949	72662	999	95555

N. 10000. L 000.

Logarithms

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02	8677	9111	9544	9977	0411	0844	1277	1710	2143	2576	433	2-86
03	001.3009	3442	3875	4308	4741	5174	5607	6039	6472	6905	432	3-130
04	7337	7770	8202	8635	9067	9499	9932	0364	0796	1228	432	4-173
05	002.1661	2093	2525	2957	3389	3821	4253	4685	5116	5548	431	5-216
06	5980	6411	6843	7275	7706	8138	8569	9001	9432	9863	431	6-259
07	003.0295	0726	1157	1588	2019	2451	2882	3313	3744	4174	430	7-302
08	4605	5036	5467	5898	6328	6759	7190	7620	8051	8481	430	8-346
09	8912	9342	9772	0203	0633	1063	1493	1924	2354	2784	430	9-389
1010	004.3214	3644	4074	4504	4933	5363	5793	6223	6652	7082	429	428
11	7512	7941	8371	8800	9229	9659	0088	0517	0947	1376	429	1-43
12	005.1805	2234	2663	3092	3521	3950	4379	4808	5237	5666	428	2-86
13	6094	6523	6952	7380	7809	8238	8666	9094	9523	9951	428	3-128
14	006.0380	0808	1236	1664	2092	2521	2949	3377	3805	4233	428	4-171
15	4660	5088	5516	5944	6372	6799	7227	7655	8082	8510	427	5-214
16	8937	9365	9792	0219	0647	1074	1501	1928	2355	2782	427	6-257
17	007.3210	3637	4064	4490	4917	5344	5771	6198	6624	7051	426	7-300
18	4778	5204	5631	6057	6484	6910	7337	7763	8189	8615	426	8-342
19	008.1742	2168	2594	3020	3446	3872	4298	4724	5150	5576	425	9-385
1020	6002	6427	6853	7279	7704	8130	8556	8981	9407	9832	425	424
21	009.0257	0683	1108	1533	1959	2384	2809	3234	3659	4084	425	1-42
22	4509	4934	5359	5784	6208	6633	7058	7483	7907	8332	424	2-85
23	8756	9181	9605	0030	0454	0878	1303	1727	2151	2575	424	3-127
24	010.3000	3424	3848	4272	4696	5120	5544	5967	6391	6815	423	4-170
25	7239	7662	8086	8510	8933	9357	9780	0204	0627	1050	423	5-212
26	011.1474	1897	2320	2743	3166	3590	4013	4436	4859	5282	422	6-254
27	5704	6127	6550	6973	7396	7818	8241	8664	9086	9509	422	7-297
28	9931	0354	0776	1198	1621	2043	2465	2887	3309	3732	422	8-339
29	012.4154	4576	4998	5420	5842	6264	6685	7107	7529	7951	421	9-382
1030	8372	8794	9215	9637	0059	0481	0901	1323	1744	2165	421	420
31	013.2587	3008	3429	3850	4271	4692	5113	5534	5955	6376	420	1-42
32	6797	7218	7639	8059	8480	8901	9321	9742	0162	0583	420	2-84
33	014.1003	1424	1844	2264	2685	3105	3525	3945	4365	4785	420	3-126
34	5205	5625	6045	6465	6885	7305	7725	8144	8564	8984	419	4-168
35	9403	9823	0243	0662	1082	1501	1920	2340	2759	3178	419	5-210
36	015.3598	4017	4436	4855	5274	5693	6112	6531	6950	7369	418	6-252
37	7788	8206	8625	9044	9462	9881	0300	0718	1137	1555	418	7-294
38	016.1974	2392	2810	3229	3647	4065	4483	4901	5319	5737	418	8-336
39	6155	6573	6991	7409	7827	8245	8663	9080	9498	9916	417	9-378
1040	017.0333	0750	1168	1586	2003	2421	2838	3256	3673	4090	417	416
41	4507	4924	5342	5759	6176	6593	7010	7427	7844	8260	417	1-42
42	8677	9094	9511	9927	0344	0761	1177	1594	2010	2427	416	2-83
43	018.2843	3259	3676	4092	4508	4925	5341	5757	6173	6589	416	3-125
44	7005	7421	7837	8253	8669	9084	9500	9916	0332	0747	415	4-166
45	019.1163	1578	1994	2410	2825	3240	3656	4071	4486	4902	415	5-208
46	5317	5732	6147	6562	6977	7392	7807	8222	8637	9052	414	6-250
47	9467	9882	0296	0711	1126	1540	1955	2369	2784	3198	414	7-291
48	020.3613	4027	4442	4856	5270	5684	6099	6513	6927	7341	414	8-333
49	7755	8169	8583	8997	9411	9824	0238	0652	1066	1479	413	9-374
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to 101000.

N. 10500. L. 021

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51	6027	6440	6854	7267	7680	8093	8506	8919	9332	9745		1-41
52	022	0157	0570	0983	1396	1808	2221	2634	3046	3459	3871	2-82
53	4284	4696	5109	5521	5933	6345	6758	7170	7582	7994	412	3-124
54	8406	8818	9230	9642	0054	0466	0878	1289	1701	2113		4-165
55	023	2525	2936	3348	3759	4171	4582	4994	5405	5817	6228	411
56	6639	7050	7462	7873	8284	8695	9106	9517	9928	0339		5-206
57	024	0750	1161	1572	1982	2393	2804	3214	3625	4036	4446	6-247
58	4857	5267	5678	6088	6498	6909	7319	7729	8139	8549	410	7-288
59	8950	9370	9780	0190	0600	1010	1419	1829	2239	2649		8-330
1060	025	3059	3468	3878	4288	4697	5107	5516	5926	6335	6744	9-371
61	7154	7563	7972	8382	8791	9200	9609	0018	0427	0836	409	408
62	026	1245	1654	2063	2472	2881	3289	3698	4107	4515	4924	1-41
63	5333	5741	6150	6558	6967	7375	7783	8192	8600	9008		2-82
64	9416	9824	0233	0641	1049	1457	1865	2273	2680	3088	408	3-124
65	027	3496	3904	4312	4719	5127	5535	5942	6350	6757	7165	4-163
66	7572	7979	8387	8794	9201	9609	0016	0423	0830	1237	407	5-204
67	028	1644	2051	2458	2865	3272	3679	4086	4492	4899	5306	6-245
68	5713	6119	6526	6932	7339	7745	8152	8558	8964	9371	406	7-286
69	9777	0183	0590	0996	1402	1808	2214	2620	3026	3432		8-326
1070	029	3838	4244	4649	5055	5461	5867	6272	6678	7084	7489	9-367
71	7895	8300	8706	9111	9516	9922	0327	0732	1138	1543	405	404
72	030	1948	2353	2758	3163	3568	3973	4378	4783	5188	5592	1-40
73	5997	6402	6807	7211	7616	8020	8425	8830	9234	9638		2-81
74	031	0043	0447	0851	1256	1660	2064	2468	2872	3277	3681	3-121
75	4085	4489	4893	5296	5700	6104	6508	6912	7315	7719		4-162
76	8123	8526	8930	9333	9737	0140	0544	0947	1350	1754	403	5-202
77	032	2157	2560	2963	3367	3770	4173	4576	4979	5382	5785	6-242
78	6188	6590	6993	7396	7799	8201	8604	9007	9409	9812		7-283
79	033	0214	0617	1019	1422	1824	2226	2629	3031	3433	3835	8-323
1080	4238	4640	5042	5444	5846	6248	6650	7052	7453	7855		9-364
81	8257	8659	9060	9462	9864	0265	0667	1068	1470	1871		401
82	034	2273	2674	3075	3477	3878	4279	4680	5081	5482	5884	1-40
83	6285	6686	7087	7487	7888	8289	8690	9091	9491	9892		2-80
84	035	0293	0693	1094	1495	1895	2296	2696	3096	3497	3897	3-120
85	4297	4698	5098	5498	5898	6298	6698	7098	7498	7898		4-160
86	8298	8698	9098	9498	9898	0297	0697	1097	1496	1896		5-200
87	036	2295	2695	3094	3494	3893	4293	4692	5091	5491	5890	6-241
88	6285	6688	7087	7486	7885	8284	8683	9082	9481	9880		7-281
89	037	0279	0678	1076	1475	1874	2272	2671	3070	3468	3867	8-324
1090	4265	4663	5062	5460	5858	6257	6655	7053	7451	7849	398	9-361
91	8248	8646	9044	9442	9839	0237	0635	1033	1431	1829		397
92	038	2226	2624	3022	3419	3817	4214	4612	5009	5407	5804	1-40
93	6202	6599	6996	7393	7791	8188	8585	8982	9379	9776	397	2-79
94	039	0173	0570	0965	1361	1756	2152	2548	2945	3341	3745	3-119
95	4141	4538	4934	5331	5727	6124	6520	6917	7313	7709	396	4-165
96	8106	8500	8895	9294	9690	0086	0480	0878	1274	1670		5-198
97	040	2066	2462	2858	3254	3650	4045	4441	4837	5232	5628	6-238
98	6023	6419	6814	7210	7605	8001	8396	8791	9187	9582	395	7-288
99	9977	0372	0767	1162	1557	1952	2347	2742	3137	3532		8-318
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02	042.1816	2210	2604	2998	3392	3786	4180	4574	4968	5361		2-79
03	5755	6149	6543	6936	7330	7723	8117	8510	8904	9297		3-118
04	9691	0084	0477	0871	1264	1657	2050	2444	2837	3230	393	4-157
05	043.3623	4016	4409	4802	5195	5587	5980	6373	6766	7159		5-196
06	7511	7904	8297	8690	9082	9475	9867	0259	0652	1044	392	6-236
07	044.1476	1869	2261	2653	3045	3437	3829	4222	4614	5006		7-275
08	5398	5790	6181	6573	6965	7357	7749	8140	8532	8924		8-314
09	9315	9707	0099	0490	0882	1273	1664	2055	2447	2839	391	9-354
1110	045.3230	3621	4012	4403	4795	5186	5577	5968	6359	6750		390
11	7141	7531	7922	8313	8704	9095	9485	9876	0267	0657		1-39
12	046.1048	1438	1829	2219	2610	3000	3391	3781	4171	4561	390	2-78
13	4952	5342	5732	6122	6512	6902	7292	7682	8072	8462		3-117
14	8852	9242	9632	0021	0411	0801	1190	1580	1970	2359		4-156
15	047.2749	3138	3528	3917	4306	4696	5085	5474	5864	6253	389	5-195
16	6642	7031	7420	7809	8198	8587	8976	9365	9754	0143		6-234
17	048.0532	0921	1309	1698	2087	2475	2864	3253	3641	4030		7-273
18	4418	4806	5195	5583	5972	6360	6748	7136	7525	7913	388	8-312
19	8371	8759	9147	9535	9923	0311	0699	1087	1475	1862		9-351
1120	049.2180	2568	2956	3343	3731	4119	4506	4894	5281	5669		386
21	6056	6444	6831	7218	7606	7993	8380	8767	9154	9541	387	1-39
22	9929	0316	0703	1090	1477	1863	2250	2637	3024	3411		2-77
23	050.3798	4184	4571	4958	5344	5731	6117	6504	6890	7277		3-116
24	7663	8049	8436	8822	9208	9595	9981	0367	0753	1139	386	4-154
25	051.1525	1911	2297	2683	3069	3455	3841	4227	4612	4998		5-193
26	5384	5770	6155	6541	6926	7312	7697	8083	8468	8854		6-232
27	9239	9624	0010	0395	0780	1166	1551	1936	2321	2706	385	7-270
28	052.3091	3476	3861	4246	4631	5016	5400	5785	6170	6555		8-309
29	6939	7324	7709	8093	8478	8862	9247	9631	0016	0400		9-347
1130	053.3784	1169	1553	1937	2321	2706	3090	3474	3858	4242	384	383
31	4626	5010	5394	5778	6162	6546	6929	7313	7697	8081		1-38
32	8464	8848	9232	9615	9999	0382	0766	1149	1532	1916	383	2-77
33	054.2299	2682	3066	3449	3832	4215	4598	4981	5365	5748		3-115
34	6131	6514	6896	7279	7662	8045	8428	8811	9193	9576		4-153
35	9959	0341	0724	1106	1489	1871	2254	2636	3019	3401	382	5-191
36	055.3783	4166	4548	4930	5312	5694	6077	6459	6841	7223		6-230
37	7605	7987	8369	8750	9132	9514	9896	0278	0659	1041		7-268
38	056.1423	1804	2186	2567	2949	3330	3712	4093	4475	4856	381	8-306
39	5237	5619	6000	6381	6762	7143	7524	7905	8287	8668		9-345
1140	057.2856	3237	3618	3998	4379	4759	5140	5520	5900	6281	380	1-38
41	6661	7041	7422	7802	8182	856	8942	9322	9702	0082		2-76
42	058.0462	0842	1222	1602	1982	2362	2741	3121	3501	3881		3-114
43	4260	4640	5019	5399	5778	6158	6537	6917	7296	7676	379	4-152
44	8355	8734	9113	9493	9872	0251	0630	1009	1388	1767		5-189
45	059.1846	2225	2604	2983	3362	3741	4119	4498	4877	5256		6-227
46	5634	6013	6391	6770	7148	7527	7905	8284	8662	9041	378	7-265
47	9419	9797	0175	0554	0932	1310	1688	2066	2444	2822		8-303
48	060.3100	3578	3956	4334	4712	5090	5468	5845	6223	6601		9-341
49	060.3100	3578	3956	4334	4712	5090	5468	5845	6223	6601		9-341
N ^{um}	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 11500. L. 060

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
1150	060.6978	7356	7734	8111	8489	8866	9244	9621	9999	0376	377	376
51	061.0753	1131	1508	1885	2262	2639	3017	3394	3771	4148		1-38
52	4525	4902	5279	5656	6032	6409	6786	7163	7540	7916		2-75
53	8293	8670	9046	9423	9799	0176	0552	0929	1305	1682		3-113
54	062.2058	2434	2811	3187	3563	3939	4316	4692	5068	5444	376	4-150
55	5820	6195	6572	6948	7324	7699	8075	8451	8827	9203		5-188
56	9578	9954	0330	0705	1081	1456	1832	2207	2583	2958		6-226
57	063.3334	3709	4084	4460	4835	5210	5585	5960	6335	6711	375	7-263
58	7085	7461	7836	8211	8585	8960	9335	9710	0085	0460		8-301
59	064.0834	1209	1584	1958	2333	2708	3082	3457	3831	4205		9-338
1160	4587	4954	5329	5703	6077	6451	6826	7200	7574	7948	374	373
61	8322	8696	9070	9444	9818	0192	0566	0940	1314	1688		1-37
62	065.2061	2435	2809	3182	3556	3930	4303	4677	5050	5424		2-75
63	5797	6171	6544	6917	7291	7664	8037	8410	8784	9157	373	3-112
64	9520	9903	0276	0649	1022	1395	1768	2141	2514	2886		4-149
65	066.3259	3632	4005	4377	4750	5123	5495	5868	6241	6613		5-186
66	6986	7358	7730	8103	8475	8847	9220	9592	9964	0336	372	6-121
67	067.0709	1081	1453	1825	2197	2569	2941	3313	3685	4057		7-261
68	4428	4800	5172	5544	5915	6287	6659	7030	7402	7774		8-298
69	8145	8517	8888	9259	9631	0002	0374	0745	1116	1487	371	9-336
1170	068.1859	2230	2601	2972	3343	3714	4085	4456	4827	5198		370
71	5569	5940	6311	6681	7052	7423	7794	8164	8535	8906		1-37
72	9276	9647	0017	0388	0758	1129	1499	1869	2240	2610	370	2-74
73	069.2980	3350	3721	4091	4461	4831	5201	5571	5941	6311		3-111
74	6681	7051	7421	7791	8160	8530	8900	9270	9639	0009		4-148
75	070.0379	0748	1118	1487	1857	2226	2596	2965	3335	3704	369	5-185
76	4073	4442	4812	5181	5550	5919	6288	6658	7027	7396		6-222
77	7765	8134	8503	8871	9240	9609	9978	0347	0715	1084		7-259
78	071.1453	1822	2190	2559	2927	3296	3664	4033	4401	4770		8-296
79	5138	5506	5875	6243	6611	6979	7348	7716	8084	8452	368	9-333
1180	8820	9188	9556	9924	0292	0660	1028	1396	1763	2131		366
81	072.2499	2867	3234	3602	3970	4337	4705	5072	5440	5807		1-37
82	6175	6542	6910	7277	7644	8011	8379	8746	9113	9480	367	2-73
83	9847	0215	0582	0949	1316	1683	2050	2416	2783	3150		3-110
84	073.3517	3884	4251	4617	4984	5351	5717	6084	6450	6817		4-146
85	7184	7550	7916	8283	8649	9010	9382	9748	0114	0481	366	5-183
86	074.0847	1213	1579	1945	2311	2677	3043	3409	3775	4141		6-220
87	4507	4873	5239	5605	5970	6336	6702	7068	7433	7799		7-256
88	8164	8530	8895	9261	9626	9992	0357	0723	1088	1453	365	8-293
89	075.1819	2184	2549	2914	3279	3644	4010	4375	4740	5105		9-329
1190	5470	5835	6199	6564	6929	7294	7659	8024	8388	8753		364
91	9118	9482	9847	0211	0576	0940	1305	1669	2034	2398	364	1-36
92	076.2763	3127	3491	3855	4220	4584	4948	5312	5676	6040		2-73
93	6404	6768	7132	7496	7860	8224	8588	8952	9316	9680		3-109
94	077.0043	0407	0771	1134	1498	1862	2225	2589	2952	3316		4-146
95	3679	4042	4406	4769	5133	5496	5859	6222	6585	6949	363	5-182
96	7312	7675	8038	8401	8764	9127	9490	9853	0216	0579		6-218
97	078.0942	1304	1667	2030	2393	2755	3118	3480	3843	4206		7-255
98	4568	4931	5293	5656	6018	6380	6743	7105	7467	7830	362	8-291
99	8192	8554	8916	9278	9640	0003	0365	0727	1089	1451		9-328
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	U	Pts
1200	079.6812	2174	2536	2898	3260	3622	3983	4345	4707	5068	362	363
01	5430	5792	6153	6515	6876	7238	7599	7961	8322	8683	361	1-36
02	9045	9406	9767	0128	0490	0851	1212	1573	1934	2295		2-73
03	080.2656	3017	3378	3739	4100	4461	4822	5183	5543	5904		3-109
04	6265	6626	6986	7347	7707	8068	8429	8789	9150	9510		4-145
05	9870	0231	0591	0952	1312	1672	2032	2393	2753	3113	360	5-181
06	081.3473	3833	4193	4553	4913	5273	5633	5993	6353	6713		6-218
07	7073	7432	7792	8152	8512	8871	9231	9591	9950	0310		7-254
08	082.0669	1029	1388	1748	2107	2467	2826	3185	3545	3904	359	8-290
09	4263	4622	4981	5341	5700	6059	6418	6777	7136	7495		9-327
1210	7854	8213	8571	8930	9289	9648	0007	0365	0724	1083		360
11	083.1441	1800	2159	2517	2876	3234	3593	3951	4309	4668	358	1-36
12	5026	5385	5743	6101	6459	6817	7176	7534	7892	8250		2-72
13	8608	8966	9324	9682	0040	0398	0756	1114	1471	1829		3-108
14	084.2187	2545	2902	3260	3618	3975	4332	4690	5048	5405		4-144
15	5763	6120	6478	6835	7192	7550	7907	8264	8621	8979	357	5-180
16	9336	9693	0050	0407	0764	1121	1478	1835	2192	2549		6-216
17	085.2906	3263	3619	3976	4333	4690	5046	5403	5760	6116		7-252
18	6473	6829	7186	7542	7899	8255	8612	8968	9324	9681	356	8-288
19	086.0037	0393	0750	1106	1462	1818	2174	2530	2886	3242		9-324
1220	3598	3954	4310	4666	5022	5378	5734	6089	6445	6801		357
21	7157	7512	7868	8224	8579	8935	9290	9646	0001	0357		1-36
22	087.0712	1067	1423	1778	2133	2489	2844	3199	3554	3909	355	2-71
23	4265	4620	4975	5330	5685	6040	6395	6750	7104	7459		3-107
24	7814	8169	8524	8878	9233	9588	9943	0297	0652	1006		4-143
25	088.1361	1715	2070	2424	2779	3133	3488	3842	4196	4550	354	5-178
26	4905	5259	5613	5967	6321	6676	7030	7384	7738	8092		6-214
27	8446	8800	9153	9507	9861	0215	0569	0923	1276	1630		7-250
28	089.1984	2337	2691	3045	3398	3752	4105	4459	4812	5165		8-286
29	5519	5872	6226	6579	6932	7285	7639	7992	8345	8698	353	9-321
1230	9051	9404	9757	0110	0463	0816	1169	1522	1875	2228		354
31	090.2581	2933	3286	3639	3991	4344	4697	5049	5402	5755		1-35
32	6107	6460	6812	7164	7517	7869	8222	8574	8926	9279	352	2-71
33	9631	9983	0335	0687	1039	1392	1744	2096	2448	2800		3-106
34	091.3152	3504	3855	4207	4559	4911	5263	5614	5966	6318		4-142
35	6670	7021	7373	7724	8076	8427	8779	9130	9482	9833		5-177
36	092.0185	0536	0887	1239	1590	1941	2292	2644	2995	3346	351	6-212
37	3697	4048	4399	4750	5101	5452	5803	6154	6505	6856		7-248
38	7206	7557	7908	8259	8609	8960	9311	9661	0012	0363		8-283
39	093.0713	1064	1414	1764	2115	2465	2816	3166	3516	3867	350	9-319
1240	4217	4567	4917	5267	5618	5968	6318	6668	7018	7368		351
41	7718	8068	8418	8768	9117	9467	9817	0167	0517	0866		1-35
42	094.1216	1566	1915	2265	2614	2964	3313	3663	4012	4362		2-70
43	4711	5061	5410	5759	6109	6458	6807	7156	7506	7855	349	3-105
44	8204	8553	8902	9251	9600	9949	0298	0647	0996	1345		4-140
45	095.1694	2042	2391	2740	3089	3437	3786	4135	4483	4832		5-175
46	5180	5529	5877	6226	6574	6923	7271	7620	7968	8316	348	6-211
47	8665	9013	9361	9709	0057	0405	0754	1102	1450	1798		7-246
48	096.2146	2494	2842	3190	3538	3885	4233	4581	4929	5277		8-281
49	5624	5972	6320	6667	7015	7363	7710	8058	8405	8753		9-316
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

This **TABLE** of Proportional Parts is a Supplement to the last Columns (intitl'd Pts. Pro.) in the 5 preceding Pages.

Pts. Pro.	THE Index in this Table of Logarithms	D	1	2	3	4	5	6	7	8	9
1	362 361	434	43	87	130	174	217	260	304	347	39
2	36 36	433	43	87	130	173	216	260	303	346	38
3	72 72	431	43	86	129	172	215	259	302	345	38
4	109 108	430	43	86	129	172	215	258	301	344	38
5	145 144	429	43	86	129	172	214	257	300	343	38
6	181 180	427	43	85	128	171	213	256	299	342	38
7	217 217	426	43	85	128	170	213	256	298	341	38
8	253 253	425	42	85	127	170	212	255	297	340	38
9	290 289	423	42	85	127	169	211	254	296	338	38
10	326 325	422	42	84	127	169	211	253	295	338	38
11	355 358	421	42	84	126	168	210	253	295	337	379
12	36 36	419	42	84	126	168	209	251	293	335	377
13	72 72	418	42	84	125	167	209	251	293	334	376
14	108 107	417	42	83	125	167	208	250	292	334	375
15	144 143	415	41	83	124	166	207	249	290	332	373
16	179 179	414	41	83	124	166	207	248	290	331	373
17	215 215	413	41	83	124	165	206	248	289	330	372
18	251 251	411	41	82	123	164	205	247	288	329	370
19	287 286	410	41	82	123	164	205	246	287	328	369
20	323 322	409	41	82	123	164	204	245	286	327	368
21	356 355	407	41	81	122	163	203	244	285	326	366
22	36 36	406	41	81	122	162	203	244	284	325	365
23	71 71	405	40	81	121	162	202	243	283	324	364
24	107 106	403	40	81	121	161	201	242	282	322	363
25	142 142	402	40	80	121	161	201	241	281	322	362
26	178 177	399	40	80	120	160	199	239	279	319	359
27	214 213	398	40	80	119	159	199	239	279	318	358
28	249 248	396	40	79	119	158	198	238	277	317	356
29	285 284	395	39	79	118	158	197	237	276	316	355
30	320 319	394	39	79	118	158	197	236	276	315	355
31	353 352	392	39	78	118	157	196	235	274	314	353
32	35 35	391	39	78	117	156	195	235	274	313	352
33	71 70	389	39	78	117	156	194	233	272	311	350
34	106 106	388	39	78	116	155	194	233	272	310	349
35	141 141	387	39	77	116	155	193	232	271	310	348
36	176 176	385	38	77	115	154	192	231	269	308	346
37	212 211	384	38	77	115	154	192	230	269	307	346
38	247 246	382	38	76	115	153	191	229	267	306	344
39	282 282	381	38	76	114	152	190	229	267	305	343
40	318 317	380	38	76	114	152	190	228	266	304	342
41	354 349	378	38	76	113	151	189	227	265	302	340
42	35 35	377	38	75	113	151	188	226	264	302	339
43	70 70	375	37	75	112	150	187	225	262	300	337
44	105 105	374	37	75	112	150	187	224	262	299	337
45	140 140	372	37	74	112	149	186	223	260	298	335
46	175 174	371	37	74	111	148	185	223	260	297	334
47	210 209	369	37	74	111	148	184	221	258	295	332
48	245 244	368	37	74	110	147	184	221	258	294	331
49	280 279	367	37	73	110	147	183	220	257	294	330
50	314 315	365	36	73	109	146	182	219	255	292	328

This **TABLE** of Proportional Parts is a Supplement to the last Columns (intituled Pts. Pro.) in the 16 following Pages.

D.	1	2	3	4	5	6	7	8	9	Pts. Pro.
333	33	67	100	133	166	200	233	266	300	348 347
331	33	66	100	133	166	199	232	266	299	1 35 35
331	33	66	99	132	165	199	232	265	298	2 70 69
329	33	66	99	132	164	197	230	263	296	3 104 104
327	33	65	98	131	163	196	229	261	294	4 139 139
326	33	66	98	130	163	196	228	261	293	5 174 173
324	32	65	97	130	162	194	227	259	292	6 209 208
322	32	64	97	129	161	193	225	258	290	7 244 243
320	32	64	96	128	160	192	224	256	288	8 278 278
319	32	64	96	128	159	191	223	255	287	9 313 312
317	32	63	95	127	158	190	222	254	285	345 344
315	31	63	94	126	157	189	220	252	283	1 34 34
313	31	63	94	125	156	188	219	250	282	2 69 69
312	31	62	94	125	156	187	218	250	281	3 103 103
310	31	62	93	124	155	186	217	248	279	4 138 138
308	31	62	92	123	154	185	216	246	277	5 172 172
306	31	61	92	122	153	184	214	245	275	6 207 206
304	30	61	91	122	152	182	213	243	274	7 241 241
302	30	60	91	121	151	181	211	242	272	8 276 275
300	30	60	90	120	150	180	210	240	270	9 310 310
299	30	60	90	120	149	179	209	239	269	348 341
297	30	59	89	119	148	178	208	238	267	1 34 34
295	29	59	88	118	147	177	206	236	265	2 68 68
293	29	59	88	117	146	176	205	234	264	3 103 102
291	29	58	87	116	145	175	204	233	262	4 137 136
288	29	58	86	115	144	173	202	230	259	5 171 170
286	29	57	86	114	143	172	200	229	257	6 205 205
284	28	57	85	114	142	170	199	227	256	7 239 239
282	28	56	85	113	141	169	197	226	254	8 274 273
280	28	56	84	112	140	168	196	224	252	9 308 307
277	28	55	83	111	138	166	194	222	249	339 338
275	27	55	82	110	137	165	192	220	247	1 34 34
273	27	55	82	109	136	164	191	218	246	2 68 68
270	27	54	81	108	135	162	189	216	243	3 102 101
268	27	54	80	107	134	161	188	214	241	4 136 135
265	26	53	79	106	132	159	185	212	238	5 169 169
263	26	53	79	105	131	158	184	210	237	6 203 203
260	26	52	78	104	130	156	182	208	234	7 237 237
257	26	51	77	103	128	154	180	206	231	8 271 270
254	25	51	76	102	127	152	178	203	229	9 305 304
251	25	50	75	100	125	151	176	201	226	336 335
248	25	50	74	99	124	149	174	198	223	1 34 33
244	24	49	73	98	122	146	171	195	220	2 67 67
240	24	48	72	96	120	144	168	192	216	3 101 100
236	24	47	71	94	118	142	165	189	212	4 134 134
231	23	46	69	92	116	139	162	185	208	5 168 167
225	23	45	67	90	112	135	157	180	202	6 202 201
215	21	43	64	86	107	129	150	172	193	7 235 234

A Logarithm being given, to find its corresponding absolute Number, search for the 3 first Figures of the Log. given (without the Index) in the second Column, and for the 4 last amongst the 10 following Columns; where, if the Log. sought be not found exactly, then take the nearest that is less, and subtract it from the Log. sought, and look the Remainder in the Parts Proportional of its common Difference, against the nearest Number less is a 6th Figure to be placed, after the first 5; in case that be not exact, subtract it, and add a Cypher to the right hand of the remainder and look again in the same Parts Proportional, against the nearest to it is a 7th Figure to be placed at the right hand of the former 6 Figures found.

This Logarithm we will

pitch upon, be 4.2318252

cause in sight, The L. of 1293675

is the nearest 1118000

less viz. —

The Remainder is 252

The common Dif. is 336, the Pts. pr.

against 7 is 235

The Remainder 252

with a Cypher at the right, is 1710

The nearest in the

same Pts. Pro. viz. 168

168, is against 5. 0/2

It's plain by the Work,

that the 7 Figures that this

Logarithm belongs to, with-

out the Index, is 1293675:

But because the Index is 4

the Absolute Number must

be 5 places, the last 2 places

are a Decimal Fraction, and

the true Num. is 1293675

If the Log. had been 5.1118-

252, the Absolute Number

would be 1293675; if the

Index was 2 the Number

answering would be 129

3675. If the Index had

been 5 the 7 places had been

all whole Numbers.

348	347
1 35	35
2 70	69
3 104	104
4 139	139
5 174	173
6 209	208
7 244	243
8 278	278
9 313	312
345	344
1 34	34
2 69	69
3 103	103
4 138	138
5 172	172
6 207	206
7 241	241
8 276	275
9 310	310
348	341
1 34	34
2 68	68
3 103	102
4 137	136
5 171	170
6 205	205
7 239	239
8 274	273
9 308	307
339	338
1 34	34
2 68	68
3 102	101
4 136	135
5 169	169
6 203	203
7 237	237
8 271	270
9 305	304
336	335
1 34	33
2 67	67
3 101	100
4 134	134
5 168	167
6 202	201
7 235	234
8 269	268
9 302	301

TO 101000.

N. 12500. L. 096

Num	0	1	2	3	4	5	6	7	8	9	D Pts.		
1250	096	9100	9448	9795	0142	0490	0837	1184	1531	1879	2226	147	340
51	097	2573	2920	3267	3614	3962	4309	4656	5003	5349	5696		1-35
52		6043	6390	6737	7084	7431	7777	8124	8471	8817	9164		2-69
53		9511	9857	0204	0550	0897	1243	1590	1936	2283	2629	346	3-104
54	098	2975	3322	3668	4014	4360	4707	5053	5399	5745	6091		4-138
55		6437	6783	7129	7475	7821	8167	8513	8859	9205	9551		5-173
56		9896	0242	0588	0934	1279	1625	1971	2316	2662	3007		6-208
57	099	3353	3698	4044	4389	4735	5080	5425	5771	6116	6461	345	7-242
58		6826	7172	7517	7862	8207	8552	8897	9242	9587	9932		8-277
59	100	0257	0602	0947	1292	1637	1982	2327	2671	3016	3361		9-311
1260		3705	4050	4395	4739	5084	5429	5773	6118	6462	6806		343
61		7151	7495	7840	8184	8528	8873	9217	9561	9905	0249	344	1-34
62	101	0594	0938	1282	1626	1970	2314	2658	3002	3346	3690		2-69
63		4034	4377	4721	5065	5409	5752	6096	6440	6784	7127		3-103
64		7471	7814	8158	8501	8845	9188	9532	9875	0219	0562	343	4-137
65	102	0905	1249	1592	1935	2278	2621	2965	3308	3651	3994		5-171
66		4337	4680	5023	5366	5709	6052	6395	6738	7081	7423		6-206
67		7766	8109	8452	8794	9137	9480	9822	0165	0507	0850		7-240
68	103	1193	1535	1877	2220	2562	2905	3247	3589	3932	4274	342	8-274
69		4616	4958	5301	5643	5985	6327	6669	7011	7353	7695		9-309
1270		8037	8379	8721	9063	9405	9747	0089	0430	0772	1114		340
71	104	1456	1797	2139	2480	2822	3164	3505	3847	4188	4530		1-34
72		4871	5213	5554	5895	6237	6578	6919	7260	7602	7943	341	2-58
73		8284	8625	8966	9307	9648	9989	0331	0671	1012	1353		3-102
74	105	1694	2035	2376	2717	3058	3398	3739	4080	4421	4761		4-136
75		5102	5442	5783	6124	6464	6805	7145	7486	7826	8166	340	5-170
76		8507	8847	9187	9528	9868	0208	0548	0889	1229	1569		6-204
77	106	1909	2249	2589	2929	3269	3609	3949	4289	4629	4969		7-238
78		5309	5648	5988	6328	6668	7007	7347	7687	8026	8366		8-272
79		8705	9045	9385	9724	0063	0403	0742	1082	1421	1760	339	9-306
1280		107	2100	2439	2778	3117	3457	3796	4135	4474	4813		337
81		5491	5830	6169	6508	6847	7186	7525	7864	8203	8541		1-34
82		8880	9219	9558	9896	0235	0574	0912	1251	1590	1928		2-67
83	108	2267	2605	2944	3282	3620	3959	4297	4635	4974	5312	338	3-101
84		5650	5988	6327	6665	7003	7341	7679	8017	8355	8693		4-135
85		9031	9369	9707	0045	0383	0721	1059	1396	1734	2072		5-168
86	109	2410	2747	3085	3423	3760	4098	4435	4773	5111	5448		6-202
87		5785	6123	6460	6798	7135	7472	7810	8147	8484	8821	337	7-236
88		9159	9496	9833	0170	0507	0844	1181	1518	1855	2192		8-270
89	110	2529	2866	3203	3540	3877	4213	4550	4887	5224	5560		9-303
1290		5897	6234	6570	6907	7244	7580	7917	8253	8590	8926		334
91		9262	9599	9935	0272	0608	0944	1280	1617	1953	2289	336	1-33
92	111	2625	2961	3297	3633	3969	4306	4642	4977	5313	5649		2-67
93		5985	6321	6657	6993	7329	7664	8000	8336	8671	9007		3-100
94		9343	9678	0014	0350	0685	1021	1356	1691	2027	2362	335	4-134
95	112	2698	3033	3368	3704	4039	4374	4709	5045	5380	5715		5-167
96		6050	6385	6720	7055	7390	7725	8060	8395	8730	9065		6-200
97		9400	9735	0069	0404	0739	1074	1408	1743	2078	2412		7-234
98	113	2747	3081	3416	3751	4085	4420	4754	5088	5423	5757	334	8-267
99		6092	6426	6760	7094	7429	7763	8097	8431	8765	9099		9-301
Num	0	1	2	3	4	5	6	7	8	9	D Pro.		

N. 13000. L. 113.

Logarithms

Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
1300	113.9414	9768	0102	0436	0770	1104	1437	1771	2105	2439	334	333
01	114.2773	3107	2441	3774	4108	4442	4775	5109	5443	5776		1-33
02	6110	6443	6777	7110	7444	7777	8111	8444	8777	9111	333	2-67
03	9444	9777	0111	0444	0777	1110	1444	1777	2110	2443		3-100
04	115.2776	3109	3442	3775	4108	4441	4774	5107	5439	5772		4-133
05	6105	6438	6771	7103	7436	7769	8101	8434	8767	9099		5-166
06	9432	9764	0097	0429	0762	1094	1427	1759	2091	2424	332	6-200
07	116.2756	3088	3420	3753	4085	4417	4749	5081	5413	5745		7-233
08	6077	6409	6741	7073	7405	7737	8069	8401	8733	9065		8-266
09	9396	9728	0060	0392	0723	1055	1387	1718	2050	2381		9-300
1310	117.2713	3044	3376	3707	4039	4370	4702	5033	5364	5696	331	330
11	6027	6358	6689	7021	7352	7683	8014	8345	8676	9007		1-33
12	9338	9669	0000	0331	0662	0993	1324	1655	1986	2316		2-66
13	118.2647	2978	3309	3639	3970	4301	4631	4962	5293	5623		3-99
14	5954	6284	6615	6945	7276	7606	7936	8267	8597	8927	330	4-132
15	9258	9588	9918	0248	0578	0909	1239	1569	1899	2229		5-165
16	119.2559	2880	3219	3549	3879	4209	4539	4868	5198	5528		6-198
17	5858	6187	6517	6847	7177	7506	7836	8165	8495	8825		7-231
18	9154	9484	9813	0143	0472	0801	1131	1460	1789	2119	329	8-264
19	120.2448	2777	3106	3436	3765	4094	4423	4752	5081	5410		9-297
1320	5739	6068	6397	6726	7055	7384	7713	8042	8371	8699		328
21	9028	9357	9686	0014	0343	0672	1000	1329	1657	1986		1-33
22	121.2315	2643	2972	3300	3628	3957	4285	4614	4942	5270	328	2-66
23	5598	5927	6255	6583	6911	7239	7568	7896	8224	8552		3-98
24	8880	9208	9536	9864	0192	0520	0848	1175	1503	1831		4-131
25	122.2159	2487	2814	3142	3470	3797	4125	4453	4780	5108		5-164
26	5435	5763	6090	6418	6745	7073	7400	7727	8055	8382	327	6-197
27	8709	9036	9364	9691	0018	0345	0672	1000	1327	1654		7-230
28	123.1981	2308	2635	2962	3289	3616	3942	4269	4596	4923		8-262
29	5250	5577	5903	6230	6557	6883	7210	7537	7863	8190		9-295
1330	8516	8843	9169	9496	9822	0149	0475	0802	1128	1454	326	325
31	124.1781	2107	2433	2759	3086	3412	3738	4064	4390	4716		1-32
32	5042	5368	5694	6020	6346	6672	6998	7324	7650	7976		2-65
33	8301	8627	8953	9279	9605	9930	0256	0582	0907	1233		3-97
34	125.1558	1884	2209	2535	2860	3186	3511	3837	4162	4487	325	4-130
35	4813	5138	5463	5788	6114	6439	6764	7089	7414	7739		5-162
36	8065	8390	8715	9040	9365	9690	0015	0339	0664	0989		6-195
37	126.1314	1639	1964	2288	2613	2938	3263	3587	3912	4237		7-227
38	4561	4886	5210	5535	5859	6184	6508	6833	7157	7481	324	8-260
39	7806	8130	8454	8779	9103	9427	9751	0076	0400	0724		9-292
1340	127.1048	1372	1696	2020	2344	2668	2992	3316	3640	3964		323
41	4288	4612	4935	5259	5583	5907	6230	6554	6878	7202		1-32
42	7525	7849	8172	8496	8819	9143	9466	9790	0113	0437	323	2-65
43	128.0760	1083	1407	1730	2053	2377	2700	3023	3346	3670		3-97
44	3993	4316	4639	4962	5285	5608	5931	6254	6577	6900		4-129
45	7223	7546	7869	8191	8514	8837	9160	9483	9805	0128		5-161
46	129.0451	0773	1096	1418	1741	2064	2386	2709	3031	3354		6-194
47	3676	3998	4321	4643	4965	5288	5610	5932	6255	6577	322	7-226
48	6899	7221	7543	7865	8187	8510	8832	9154	9476	9798		8-258
49	130.0119	0441	0763	1085	1407	1729	2051	2372	2694	3016		9-291
Num.	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000

N. 13500 L. 130

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
1350	130.3338	3659	3981	4303	4624	4946	5267	5589	5911	6232	322	321
51	6553	6875	7196	7518	7839	8161	8482	8803	9124	9446	321	1-32
52	9767	0088	0409	0730	1052	1373	1694	2015	2336	2657		2-64
53	131.2978	3299	3620	3941	4262	4583	4903	5224	5545	5866		3-96
54	6187	6507	6828	7149	7469	7790	8111	8431	8752	9072		4-128
55	9393	9713	0034	0354	0675	0995	1316	1636	1956	2277	320	5-160
56	132.2597	2917	3237	3558	3878	4198	4518	4838	5158	5478		6-193
57	5798	6119	6439	6758	7078	7398	7718	8038	8358	8678		7-225
58	8998	9317	9637	9957	0277	0596	0916	1236	1555	1875		8-257
59	133.2195	2514	2834	3153	3473	3792	4112	4431	4750	5070	319	9-289
1360	5389	5708	6028	6347	6666	6985	7305	7624	7943	8262		318
61	8581	8900	9219	9538	9857	0176	0495	0814	1133	1452		1-32
62	134.1771	2090	2409	2728	3046	3365	3684	4003	4321	4640		2-64
63	4959	5277	5596	5914	6233	6551	6870	7188	7507	7825		3-95
64	8144	8462	8780	9099	9417	9735	0054	0372	0690	1008	318	4-127
65	135.1327	1645	1963	2281	2599	2917	3235	3553	3871	4189		5-159
66	4507	4825	5143	5461	5779	6096	6414	6732	7050	7367		6-191
67	7685	8003	8320	8638	8956	9273	9591	9908	0226	0543		7-223
68	136.0861	1178	1496	1813	2131	2448	2765	3083	3400	3717	317	8-254
69	4034	4352	4669	4986	5303	5620	5937	6255	6572	6889		9-286
1370	7206	7523	7840	8157	8473	8790	9107	9424	9741	0058		316
71	137.0375	0691	1008	1325	1641	1958	2275	2591	2908	3225		1-32
72	3541	3858	4174	4491	4807	5124	5440	5756	6073	6389	316	2-63
73	6705	7022	7338	7654	7970	8287	8603	8919	9235	9551		3-95
74	9867	0183	0499	0815	1131	1447	1763	2079	2395	2711		4-126
75	138.3027	3343	3659	3974	4290	4606	4922	5237	5553	5869		5-158
76	6184	6500	6816	7131	7447	7762	8078	8393	8709	9024		6-190
77	9339	9655	9970	0285	0601	0916	1231	1547	1862	2177	315	7-221
78	139.2492	2807	3122	3438	3753	4068	4383	4698	5013	5328		8-253
79	5643	5958	6272	6587	6902	7217	7532	7847	8161	8476		9-284
1380	8791	9106	9420	9735	0050	0364	0679	0993	1308	1622		314
81	140.1937	2251	2566	2880	3195	3509	3823	4138	4452	4766	314	1-31
82	5080	5395	5709	6023	6337	6651	6966	7280	7594	7908		2-63
83	8222	8536	8850	9164	9478	9792	0106	0419	0733	1047		3-94
84	141.1361	1675	1988	2302	2616	2930	3243	3557	3871	4184		4-120
85	4458	4811	5125	5438	5752	6065	6379	6692	7006	7319	313	5-157
86	7632	7946	8259	8572	8885	9199	9512	9825	0138	0451		6-188
87	142.0765	1078	1391	1704	2017	2330	2643	2956	3269	3582		7-220
88	3895	4208	4520	4833	5146	5459	5772	6084	6397	6710		8-251
89	7022	7335	7648	7960	8273	8586	8898	9211	9523	9836		9-283
1390	143.0148	0460	0773	1085	1398	1710	2022	2335	2647	2959	312	311
91	8271	8584	8896	9208	9520	9832	0144	0456	0768	1080		1-31
92	6392	6704	7016	7328	7640	7952	8264	8576	8888	9199		2-62
93	9511	9823	0135	0446	0758	1070	1381	1693	2005	2316		3-93
94	144.2628	2939	3251	3562	3874	4185	4497	4808	5119	5431		4-124
95	5747	6059	6365	6676	6987	7298	7610	7921	8232	8543	311	5-155
96	8854	9165	9476	9787	0098	0409	0720	1031	1342	1653		6-187
97	145.8964	9275	9586	9897	0207	0518	0829	1140	1450	1761		7-228
98	5072	5382	5692	6004	6314	6625	6935	7246	7556	7867		8-250
99	8177	8488	8798	9108	9419	9729	0039	0350	0660	0970	310	9-281
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
1400	146.1280	1591	1901	2211	2521	2831	3141	3451	3761	4071	310	309
01	4381	4691	5001	5311	5621	5931	6241	6551	6861	7170		1-31
02	7480	7790	8100	8409	8719	9029	9338	9648	9958	0267		2-62
03	147.0577	0886	1196	1505	1815	2124	2434	2743	3052	3362	309	3-93
04	3671	398	4290	4599	4908	5217	5527	5836	6145	6454		4-124
05	6763	7072	7381	7690	7999	8308	8617	8926	9235	9544		5-154
06	9853	0162	0471	0780	1089	1397	1706	2015	2324	2632		6-185
07	148.2941	3250	3558	3867	4175	4484	4793	5101	5410	5718		7-216
08	6027	6335	6643	6952	7260	7569	7877	8185	8493	8802	308	8-247
09	9110	9418	9726	0035	0343	0651	0959	1267	1575	1883		9-278
1410	149.2191	2499	2807	3115	3423	3731	4039	4347	4655	4962		307
11	5270	5578	5886	6193	6501	6809	7116	7424	7732	8039		1-31
12	8347	8655	8962	9270	9577	9885	0192	0499	0807	1114	307	2-61
13	150.1422	1729	2036	2344	2651	2958	3265	3573	3880	4187		3-92
14	4494	4801	5108	5415	5722	6030	6337	6644	6951	7257		4-123
15	7564	7871	8178	8485	8792	9099	9406	9712	0019	0326		5-153
16	151.0633	0939	1246	1553	1859	2166	2472	2779	3085	3392		6-184
17	3699	4005	4311	4618	4924	5231	5537	5843	6150	6456	306	7-215
18	6762	7069	7375	7681	7987	8293	8600	8906	9212	9518		8-246
19	9824	0130	0436	0742	1048	1354	1660	1966	2272	2578		9-276
1420	152.2883	3189	3495	3801	4107	4412	4718	5024	5329	5635		305
21	5941	6246	6552	6858	7163	7469	7774	8080	8385	8691		1-30
22	8996	9301	9607	9912	0217	0523	0828	1133	1439	1744	305	2-61
23	153.2049	2354	2659	2964	3270	3575	3880	4185	4490	4795		3-91
24	5100	5405	5710	6015	6320	6625	6929	7234	7539	7844		4-122
25	8149	8453	8758	9063	9368	9672	9977	0281	0586	0891		5-152
26	154.1195	1500	1804	2109	2413	2718	3022	3327	3631	3935	304	6-183
27	4210	4514	4818	5123	5427	5731	6035	6339	6643	6947		7-213
28	7282	7586	7890	8194	8498	8802	9106	9410	9714	0018		8-244
29	155.0322	0626	0930	1234	1538	1842	2145	2449	2753	3057		9-274
1430	3360	3664	3968	4271	4575	4879	5182	5486	5789	6093		303
31	6306	6700	7003	7307	7610	7914	8217	8520	8824	9127	303	1-30
32	9430	9733	0037	0340	0643	0946	1249	1553	1856	2159		2-61
33	156.2460	2765	3068	3371	3674	3977	4280	4583	4886	5189		3-91
34	5497	5799	6097	6400	6703	7006	7308	7611	7914	8216		4-121
35	8519	8822	9124	9427	9729	0032	0334	0637	0939	1242		5-151
36	157.1544	1847	2149	2452	2754	3056	3359	3661	3963	4265	302	6-182
37	4568	4870	5172	5474	5776	6079	6381	6683	6985	7287		7-212
38	7589	7891	8193	8495	8797	9099	9401	9702	0004	0306		8-242
39	158.0608	0910	1212	1513	1815	2117	2418	2720	3022	3323		9-273
1440	3625	3927	4228	4530	4831	5133	5434	5736	6037	6338	301	301
41	6640	6941	7243	7544	7845	8146	8448	8749	9050	9351		1-30
42	9653	9954	0255	0556	0857	1158	1459	1760	2061	2362		2-60
43	159.2663	2964	3265	3566	3867	4168	4469	4770	5070	5371		3-90
44	5672	5973	6273	6574	6875	7175	7476	7777	8077	8378		4-120
45	8678	8979	9280	9580	9881	0181	0481	0782	1082	1383	300	5-150
46	160.1683	1983	2284	2584	2884	3184	3485	3785	4085	4385		6-181
47	4685	4985	5285	5585	5886	6186	6486	6786	7086	7386		7-211
48	7686	7986	8285	8585	8885	9185	9485	9785	0084	0384		8-241
49	161.0681	0984	1283	1583	1882	2182	2482	2781	3081	3380		9-271
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 14500. L. 161

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
1450	161.3680	3980	4279	4578	4878	5177	5477	5776	6075	6375	299	298
51	6674	6973	7273	7572	7871	8170	8470	8769	9068	9367	1	30
52	9666	9965	0264	0563	0862	1161	1460	1759	2058	2357	2	60
53	162.2656	2955	3254	3553	3852	4150	4449	4748	5047	5345	3	89
54	5644	5943	6241	6540	6839	7137	7436	7734	8033	8331	4	119
55	8630	8928	9227	9525	9824	0122	0420	0719	1017	1315	298	5-149
56	163.1614	1912	2210	2508	2807	3105	3403	3701	3999	4297	6	179
57	4596	4894	5192	5490	5788	6086	6384	6682	6979	7277	7	209
58	7575	7873	8171	8469	8767	9064	9362	9660	9958	0255	8	238
59	164.0553	0851	1148	1446	1743	2041	2339	2636	2934	3231	9	268
1460	3529	3826	4123	4421	4718	5016	5313	5610	5908	6205	297	296
61	6502	6795	7097	7394	7691	7988	8285	8582	8880	9177	1	30
62	9474	9771	0068	0365	0662	0959	1256	1553	1850	2146	2	59
63	165.2443	2740	3037	3334	3631	3927	4224	4521	4817	5114	3	89
64	5411	5707	6004	6301	6597	6894	7190	7487	7783	8080	4	118
65	8376	8673	8969	9265	9562	9858	0155	0451	0747	1043	296	5-148
66	166.1340	1636	1932	2228	2525	2821	3117	3413	3709	4005	6	178
67	4301	4597	4893	5189	5485	5781	6077	6373	6669	6965	7	207
68	7261	7556	7852	8148	8444	8740	9035	9331	9627	9922	8	237
69	167.0218	0514	0809	1105	1400	1696	1991	2287	2582	2878	9	266
1470	3173	3469	3764	4060	4355	4650	4946	5241	5536	5831	295	294
71	6127	6422	6717	7012	7308	7603	7898	8193	8488	8783	1	29
72	9078	9373	9668	9963	0258	0553	0848	1143	1438	1733	2	59
73	168.2027	2322	2617	2912	3207	3501	3796	4091	4386	4680	3	88
74	4975	5269	5564	5859	6153	6448	6742	7037	7331	7626	4	118
75	7920	8215	8509	8803	9098	9392	9686	9981	0275	0569	294	5-147
76	169.0864	1158	1452	1746	2040	2335	2629	2923	3217	3511	6	176
77	3805	4099	4393	4687	4981	5275	5569	5863	6157	6450	7	206
78	6744	7038	7332	7626	7920	8213	8507	8801	9094	9388	8	235
79	9682	9975	0269	0563	0856	1150	1443	1737	2030	2324	9	265
1480	170.2617	2911	3204	3497	3791	4084	4377	4671	4964	5257	293	292
81	5551	5844	6137	6430	6723	7017	7310	7603	7896	8189	1	29
82	8482	8775	9068	9361	9654	9947	0240	0533	0825	1119	2	58
83	171.1412	1704	1997	2290	2583	2876	3168	3461	3754	4046	3	88
84	4339	4632	4924	5217	5509	5802	6095	6387	6680	6972	4	117
85	7265	7557	7849	8142	8434	8727	9019	9311	9604	9896	292	5-146
86	172.0188	0480	0773	1065	1357	1649	1941	2233	2526	2818	6	175
87	3110	3402	3694	3986	4278	4571	4862	5154	5446	5737	7	204
88	6029	6321	6613	6905	7197	7488	7780	8071	8364	8655	8	234
89	8947	9239	9530	9822	0113	0405	0697	0988	1280	1571	9	263
1490	173.1863	2154	2446	2737	3028	3320	3611	3903	4194	4485	291	290
91	4776	5068	5359	5650	5941	6233	6524	6815	7106	7397	1	29
92	7688	7979	8270	8561	8852	9143	9434	9725	0016	0307	2	58
93	174.0598	0889	1180	1471	1761	2052	2343	2634	2925	3215	3	87
94	3506	3797	4087	4378	4669	4959	5250	5540	5831	6121	4	116
95	6412	6702	6993	7283	7574	7864	8155	8445	8735	9026	290	5-145
96	9316	9606	9897	0187	0477	0767	1057	1348	1638	1928	6	174
97	175.2218	2508	2798	3088	3378	3668	3958	4248	4538	4828	7	203
98	5118	5408	5698	5988	6278	6567	6857	7147	7437	7727	8	232
99	8016	8306	8596	8885	9175	9465	9754	0044	0333	0623	9	261
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 15000. L. 176.

Logarithms.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1500	176.0913	1202	1492	1781	2.71	2360	2645	2939	3228	3518	289	289
01	3807	4096	4386	4675	4964	5253	5543	5832	6121	6410		1-29
02	6699	6988	7278	7567	7856	8145	8434	8723	9012	9301		2-58
03	9590	9879	0168	0457	0745	1034	1323	1612	1901	2190		3-87
04	177.2478	2767	3056	3345	3633	3922	4211	4499	4788	5076		4-116
05	5365	5654	5942	6231	6519	6808	7096	7385	7673	7961	288	5-144
06	8250	8538	8826	9115	9403	9691	9980	0268	0555	0844		6-173
07	178.1133	1421	1709	1997	2285	2573	2861	3149	3437	3725		7-202
08	4013	4301	4589	4877	5165	5453	5741	6029	6317	6605		8-231
09	6892	7180	7468	7756	8043	8331	8619	8907	9194	9482		9-260
1510	9769	0057	0345	0632	0920	1207	1495	1782	2070	2357		287
11	179.2645	2932	3219	3507	3794	4082	4369	4656	4943	5231	287	1-29
12	5518	5805	6092	6380	6667	6954	7241	7528	7815	8102		2-57
13	8389	8676	8963	9250	9537	9824	0111	0398	0685	0972		3-86
14	180.1259	1546	1832	2119	2406	2693	2980	3266	3553	3840		4-115
15	4126	4413	4700	4986	5273	5559	5846	6133	6419	6706		5-143
16	6992	7278	7565	7851	8138	8424	8711	8997	9283	9570	286	6-172
17	9856	0142	0428	0715	1001	1287	1573	1859	2145	2432		7-201
18	181.2718	3004	3290	3576	3862	4148	4434	4720	5006	5292		8-230
19	5578	5864	6150	6435	6721	7007	7293	7579	7864	8150		9-258
1520	8436	8722	9007	9293	9579	9864	0150	0435	0721	1007		285
21	182.1292	1578	1863	2149	2434	2720	3005	3290	3576	3861	285	1-28
22	4147	4432	4717	5002	5288	5573	5858	6143	6429	6714		2-57
23	6995	7284	7569	7854	8140	8425	8710	8995	9280	9565		3-85
24	9850	0135	0420	0704	0989	1274	1559	1844	2129	2414		4-114
25	183.2698	2933	3268	3553	3837	4122	4407	4691	4976	5261		5-142
26	5545	5830	6114	6399	6684	6968	7253	7537	7822	8106		6-171
27	8390	8675	8959	9244	9528	9812	0096	0381	0665	0949	284	7-199
28	184.1234	1518	1802	2086	2370	2654	2939	3223	3507	3791		8-228
29	4075	4359	4643	4927	5211	5495	5779	6063	6347	6630		9-256
1530	6914	7198	7482	7766	8050	8333	8617	8901	9185	9468		283
31	9752	0036	0319	0603	0886	1170	1454	1737	2021	2304		1-28
32	185.2588	2871	3155	3437	3721	4005	4288	4572	4855	5138	283	2-57
33	5422	5705	5988	6271	6555	6838	7121	7404	7687	7970		3-85
34	8254	8537	8820	9103	9386	9669	9952	0235	0518	0801		4-113
35	186.1084	1367	1650	1932	2215	2498	2781	3064	3347	3629		5-141
36	3912	4195	4478	4760	5042	5326	5608	5891	6174	6456		6-170
37	6739	7021	7304	7586	7869	8151	8434	8716	8999	9281	282	7-198
38	9563	9846	0128	0410	0693	0975	1257	1540	1822	2104		8-226
39	187.2386	2668	2951	3233	3515	3797	4079	4361	4643	4925		9-255
1540	5207	5489	5771	6053	6335	6617	6899	7181	7463	7745		281
41	8026	8308	8590	8872	9154	9435	9717	9999	0280	0562		1-28
42	188.2844	3125	3407	3689	3970	4252	4533	4815	5096	5378		2-56
43	3659	3941	4222	4504	4785	5066	5348	5629	5910	6192	281	3-84
44	6473	6754	7035	7317	7598	7879	8160	8441	8723	9004		4-112
45	9285	9566	9847	0128	0409	0690	0971	1252	1533	1814		5-140
46	189.2095	2376	2657	2938	3218	3499	3780	4061	4342	4622		6-169
47	4903	5184	5465	5745	6026	6307	6587	6868	7148	7429		7-197
48	7710	7990	8271	8551	8832	9112	9393	9673	9953	0234	280	8-225
49	190.0514	0795	1075	1355	1636	1916	2196	2476	2757	3037		9-253
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 15500. L. 190

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
1550	190.3317	3597	3877	4157	4438	4718	4998	5278	5558	5838	280	27
51	6118	6398	6678	6958	7238	7518	7798	8078	8357	8637		1-28
52	8917	9197	9477	9757	0036	0316	0596	0876	1155	1435		2-50
53	191.1715	1994	2274	2553	2833	3113	3392	3672	3951	4231		3-84
54	4510	4790	5069	5348	5628	5907	6187	6466	6745	7025	279	4-112
55	7304	7583	7862	8142	8421	8700	8979	9255	9538	9817		5-135
56	192.0096	0375	0654	0933	1212	1491	1770	2049	2328	2607		6-167
57	2886	3165	3444	3723	4002	4281	4559	4838	5117	5396		7-195
58	5675	5953	6232	6511	6789	7068	7347	7625	7904	8183		8-223
59	8461	8740	9018	9297	9575	9854	0132	0411	0689	0958	278	9-251
1560	193.1246	1524	1803	2081	2359	2638	2916	3194	3473	3751		278
61	4029	4307	4585	4864	5142	5420	5698	5976	6254	6532		1-28
62	6810	7088	7366	7644	7922	8200	8478	8756	9034	9312		2-50
63	9590	9868	0145	0423	0701	0979	1257	1534	1812	2090		3-83
64	194.2367	2645	2923	3200	3478	3756	4033	4311	4588	4866		4-111
65	5143	5421	5698	5976	6253	6531	6808	7086	7363	7640	277	5-135
66	7918	8195	8472	8749	9027	9304	9581	9858	0136	0413		6-167
67	195.0690	0967	1244	1521	1798	2075	2353	2630	2907	3184		7-195
68	3461	3738	4014	4291	4568	4845	5122	5399	5676	5953		8-222
69	6229	6506	6783	7060	7336	7613	7890	8167	8443	8720		9-250
1570	8997	9273	9550	9826	0103	0379	0656	0932	1209	1485		276
71	196.1762	2038	2315	2591	2867	3144	3420	3697	3973	4249	276	1-28
72	4525	4802	5078	5354	5630	5907	6183	6459	6735	7011		2-54
73	7287	7563	7839	8115	8391	8667	8943	9219	9495	9771		3-83
74	197.0047	0323	0599	0875	1151	1427	1702	1978	2254	2530		4-110
75	2806	3081	3357	3633	3908	4184	4460	4735	5011	5287		5-138
76	5562	5838	6113	6389	6664	6940	7215	7491	7766	8042	275	6-166
77	8317	8592	8868	9143	9418	9694	9969	0244	0520	0795		7-193
78	198.1070	1345	1620	1896	2171	2446	2721	2996	3271	3546		8-221
79	3821	4096	4371	4646	4921	5196	5471	5746	6021	6296		9-248
1580	6571	6846	7121	7395	7670	7945	8220	8495	8769	9044		274
81	9319	9593	9868	0143	0417	0692	0967	1241	1516	1790		1-27
82	199.2065	2339	2614	2888	3163	3437	2712	3986	4260	4535	274	2-55
83	4809	5083	5358	5632	5906	6181	6455	6729	7003	7278		3-82
84	7552	7826	8100	8374	8648	8922	9197	9471	9745	0019		4-110
85	200.0293	0567	0841	1115	1389	1662	1936	2210	2484	2758		5-137
86	3032	3306	3579	3853	4127	4401	4674	4948	5222	5496		6-164
87	5769	6043	6317	6590	6864	7137	7411	7684	7958	8231		7-192
88	8505	8778	9052	9325	9599	9872	0146	0419	0692	0966	273	8-219
89	201.1239	1512	1786	2059	2332	2605	2879	3152	3425	3698		9-247
1590	3971	4244	4517	4791	5064	5337	5610	5883	6156	6429		272
91	6702	6975	7248	7521	7794	8066	8339	8612	8885	9158		1-27
92	9431	9703	9976	0249	0522	0794	1067	1340	1612	1885		2-54
93	202.2158	2430	2703	2976	3248	3521	3793	4066	4338	4611		3-82
94	4883	5156	5428	5700	5973	6245	6518	6790	7062	7335	272	4-109
95	7607	7879	8151	8424	8696	8968	9240	9512	9785	0057		5-136
96	203.0329	0601	0873	1145	1417	1689	1961	2233	2505	2777		6-163
97	3049	3321	3593	3865	4137	4409	4681	4952	5224	5496		7-190
98	5768	6040	6311	6583	6855	7126	7398	7670	7941	8213		8-218
99	8485	8756	9028	9299	9571	9842	0114	0385	0657	0928		9-245
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
1600	204	1200	1471	1743	2014	2285	2557	2828	3099	3371	3642	271	271
01		3913	4185	4456	4727	4998	5269	5541	5812	6083	6354		1-27
02		6625	6896	7167	7438	7709	7980	8251	8522	8793	9064		2-54
03		9335	9606	9877	0148	0419	0690	0960	1231	1502	1773		3-81
04	205	2044	2314	2585	2856	3127	3397	3668	3939	4209	4480		4-108
05		4750	5021	5292	5562	5833	6103	6374	6644	6915	7185		5-135
06		7455	7726	7996	8267	8537	8807	9078	9348	9618	9889	270	6-163
07	206	0159	0429	0699	0969	1240	1510	1780	2050	2320	2590		7-190
08		2860	3131	3401	3671	3941	4211	4481	4751	5021	5291		8-217
09		5560	5830	6100	6370	6640	6910	7180	7449	7719	7989		9-244
1610		8259	8529	8798	9068	9338	9607	9877	0147	0416	0686		1269
11	207	0955	1225	1495	1764	2034	2303	2573	2842	3112	3381	269	1-27
12		3650	3920	4189	4459	4728	4997	5267	5536	5805	6074		2-54
13		6344	6613	6882	7151	7421	7690	7959	8228	8497	8766		3-81
14		9035	9304	9573	9842	0111	0380	0649	0918	1187	1456		4-108
15	208	1725	1994	2263	2532	2801	3070	3338	3607	3876	4145		5-134
16		4414	4682	4951	5220	5488	5757	6026	6294	6563	6832		6-161
17		7100	7369	7637	7906	8174	8443	8711	8980	9248	9517	268	7-188
18		9785	0054	0322	0590	0859	1127	1395	1664	1932	2200		8-215
19	209	2468	2737	3005	3273	3541	3810	4078	4346	4614	4882		9-242
1620		5150	5418	5686	5954	6222	6490	6758	7026	7294	7562		267
21		7837	8098	8366	8634	8902	9170	9437	9705	9973	0241		1-27
22	210	0508	0776	1044	1312	1579	1847	2115	2382	2650	2918		2-53
23		3185	3453	3720	3988	4255	4523	4790	5058	5325	5593		3-80
24		5860	6128	6395	6662	6930	7197	7464	7732	7999	8266	267	4-107
25		8534	8801	9068	9335	9603	9870	0137	0404	0671	0938		5-133
26	211	1205	1472	1740	2007	2274	2541	2808	3075	3342	3609		6-160
27		3876	4142	4409	4676	4943	5210	5477	5744	6010	6277		7-187
28		6544	6811	7078	7344	7611	7878	8144	8411	8678	8944		8-214
29		9211	9477	9744	0011	0277	0544	0810	1077	1343	1610		9-240
1630	212	1876	2142	2409	2675	2942	3208	3474	3741	4007	4273	266	266
31		4540	4806	5072	5338	5605	5871	6137	6403	6669	6935		1-27
32		7202	7468	7734	8000	8266	8532	8798	9064	9330	9596		2-53
33		9862	0128	0394	0660	0926	1191	1457	1723	1989	2255		3-80
34	213	2521	2786	3052	3318	3584	3849	4115	4381	4646	4912		4-106
35		5178	5443	5709	5974	6240	6505	6771	7037	7302	7568		5-133
36		7833	8098	8364	8629	8895	9160	9425	9691	9956	0221	265	6-160
37	214	0487	0752	1017	1283	1548	1813	2078	2343	2609	2874		7-186
38		3139	3404	3669	3934	4199	4464	4730	4995	5260	5525		8-213
39		5790	6055	6319	6584	6849	7114	7379	7644	7909	8174		9-239
164		8438	8703	8968	9233	9498	9762	0027	0292	0556	0821		264
41	215	1086	1350	1615	1880	2144	2409	2673	2938	3203	3467		1-26
42		3732	3996	4260	4525	4789	5054	5318	5583	5847	6111	264	2-53
43		6376	6640	6904	7169	7433	7697	7961	8226	8490	8754		3-79
44		9018	9282	9546	9811	0075	0339	0603	0867	1131	1395		4-106
45	216	1659	1923	2187	2451	2715	2979	3243	3507	3771	4034		5-132
46		4298	4562	4826	5090	5354	5617	5881	6145	6409	6672		6-158
47		6936	7200	7463	7727	7991	8254	8518	8781	9045	9309		7-185
48		9572	9836	0099	0363	0626	0890	1153	1416	1680	1943	263	8-211
49	217	2257	2470	2733	2997	3260	3523	3786	4050	4313	4576		9-238
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

to 101000.

N. 16500. L. 217

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1650	217.4839	5103	5366	5629	5892	6155	6418	6682	6945	7208	263	262
51	7471	7734	7997	8260	8523	8786	9049	9312	9575	9838		1-26
52	218.0100	0363	0626	0889	1152	1415	1677	1940	2203	2466		2-52
53	2729	2991	3254	3517	3779	4042	4305	4567	4830	5092		3-79
54	5355	5618	5880	6143	6405	6668	6930	7193	7455	7718	262	4-105
55	7980	8242	8505	8767	9030	9292	9554	9816	0079	0341		5-131
56	219.0603	0866	1128	1390	1652	1914	2177	2439	2701	2963		6-157
57	3225	3487	3749	4011	4273	4535	4797	5059	5321	5583		7-183
58	5845	6107	6369	6631	6893	7155	7417	7678	7940	8202		8-210
59	8464	8726	8987	9249	9511	9773	0034	0296	0558	0819		9-236
1660	220.1081	1342	1604	1866	2127	2389	2650	2912	3173	3435		261
61	3696	3958	4219	4481	4742	5003	5265	5526	5788	6049	261	1-26
62	6310	6571	6833	7094	7355	7617	7878	8139	8400	8661		2-52
63	8922	9184	9445	9706	9967	0228	0489	0750	1011	1272		3-78
64	221.1533	1794	2055	2316	2577	2838	3099	3360	3621	3882		4-104
65	4142	4403	4664	4925	5186	5446	5707	5968	6229	6489		5-130
66	6750	7011	7271	7532	7793	8053	8314	8574	8835	9095		6-157
67	9356	9617	9877	0138	0398	0658	0919	1179	1440	1700	260	7-183
68	222.1960	2221	2481	2741	3002	3262	3522	3783	4043	4303		8-209
69	4563	4824	5084	5344	5604	5864	6124	6384	6645	6905		9-235
1670	7165	7425	7685	7945	8205	8465	8725	8985	9245	9505		259
71	9764	0024	0284	0544	0804	1064	1324	1583	1843	2103		1-26
72	223.2363	2622	2882	3142	3402	3661	3921	4181	4440	4700		2-52
73	4959	5219	5479	5738	5998	6257	6517	6776	7036	7295		3-78
74	7555	7814	8073	8333	8592	8852	9111	9370	9630	9889	259	4-104
75	224.0148	0407	0667	0926	1185	1444	1704	1963	2222	2481		5-129
76	2740	2999	3258	3517	3777	4036	4295	4554	4813	5072		6-155
77	5331	5590	5849	6107	6366	6625	6884	7143	7402	7661		7-181
78	7920	8178	8437	8696	8955	9213	9472	9731	9990	0248		8-207
79	225.0507	0766	1024	1283	1541	1800	2059	2317	2576	2834		9-233
1680	3093	3351	3610	3868	4127	4385	4644	4902	5160	5419	258	258
81	5677	5935	6194	6452	6710	6969	7227	7485	7743	8002		1-26
82	8260	8518	8776	9034	9293	9551	9809	0067	0325	0583		2-52
83	226.0841	1099	1357	1615	1873	2131	2389	2647	2905	3163		3-77
84	3421	3679	3937	4194	4452	4710	4968	5226	5484	5741		4-103
85	5999	6257	6515	6772	7030	7288	7545	7803	8060	8318		5-129
86	8576	8833	9091	9348	9606	9863	0121	0378	0636	0893		6-155
87	227.1151	1408	1666	1923	2180	2438	2695	2953	3210	3467	257	7-181
88	3724	3982	4239	4496	4753	5011	5268	5525	5782	6039		8-206
89	6296	6554	6811	7068	7325	7582	7839	8096	8353	8610		9-232
1690	8807	9124	9381	9638	9895	0152	0409	0666	0922	1179		256
91	228.1436	1693	1950	2206	2463	2720	2977	3233	3490	3747		1-26
92	4004	4260	4517	4774	5030	5287	5543	5800	6057	6313		2-51
93	6570	6826	7083	7339	7596	7852	8108	8365	8621	8878	256	3-77
94	9134	9390	9647	9903	0159	0416	0672	0928	1185	1441		4-102
95	229.1697	1953	2209	2466	2722	2978	3234	3490	3746	4002		5-128
96	4258	4515	4771	5027	5283	5539	5795	6051	6307	6562		6-154
97	6818	7074	7330	7586	7842	8098	8354	8609	8865	9121		7-175
98	9377	9633	9888	0144	0400	0656	0911	1167	1423	1678		8-05
99	230.1934	2189	2445	2701	2956	3212	3467	3723	3978	4234		9-230
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700	230.4489	4745	5000	5256	5511	5766	6022	6277	6532	6788	255	255
01	7043	7298	7554	7809	8064	8320	8575	8830	9085	9340		1-25
02	9596	9851	0106	0361	0616	0871	1126	1381	1636	1891		2-51
03	231.2146	2401	2656	2911	3166	3421	3676	3931	4186	4441		3-76
04	4696	4951	5206	5460	5715	5970	6225	6480	6734	6989		4-102
05	7244	7499	7753	8008	8263	8517	8772	9026	9281	9536		5-127
06	9790	0045	0299	0554	0808	1063	1317	1572	1826	2081	254	6-153
07	232.2335	2590	2844	3098	3353	3607	3861	4116	4370	4624		7-178
08	4879	5133	5387	5641	5896	6150	6404	6658	6912	7166		8-204
09	7421	7675	7929	8183	8437	8691	8945	9199	9453	9707		9-229
710	9961	0215	0469	0723	0977	1231	1485	1739	1992	2246		253
11	233.2500	2754	3008	3262	3515	3769	4023	4277	4530	4784		1-25
12	5038	5291	5545	5799	6052	6306	6559	6813	7067	7320		2-51
13	7574	7827	8081	8334	8588	8841	9095	9348	9601	9855	253	3-76
14	234.0108	0362	0615	0868	1122	1375	1628	1881	2135	2388		4-101
15	2641	2894	3148	3401	3654	3907	4160	4414	4667	4920		5-126
16	5173	5426	5679	5932	6185	6438	6691	6944	7197	7450		6-152
17	7703	7956	8209	8462	8715	8967	9220	9473	9726	9979		7-177
18	235.0232	0484	0737	0990	1243	1495	1748	2001	2253	2506		8-202
19	2759	3011	3264	3517	3769	4022	4274	4527	4779	5032		9-228
720	5284	5537	5789	6042	6294	6547	6799	7052	7304	7556	252	252
21	7809	8061	8313	8566	8818	9070	9323	9575	9827	0079		1-25
22	236.0331	0584	0836	1088	1340	1592	1844	2097	2349	2601		2-50
23	2853	3105	3357	3609	3861	4113	4365	4617	4869	5121		3-76
24	5373	5625	5876	6128	6380	6632	6884	7136	7387	7639		4-101
25	7891	8143	8394	8646	8898	9150	9401	9653	9905	0156		5-126
26	237.0408	0660	0911	1163	1414	1666	1917	2169	2420	2672		6-151
27	2923	3175	3426	3678	3929	4181	4432	4683	4935	5186	251	7-176
28	5437	5689	5940	6191	6443	6694	6945	7196	7448	7699		8-202
29	7950	8201	8452	8703	8955	9206	9457	9708	9959	0210		9-227
730	238.0461	0712	0963	1214	1465	1716	1967	2218	2469	2720		250
31	2971	3222	3472	3723	3974	4225	4476	4727	4977	5228		1-25
32	5479	5730	5980	6231	6482	6732	6983	7234	7484	7735		2-50
33	7986	8236	8487	8737	8988	9238	9489	9739	9990	0240		3-75
34	239.0491	0741	0992	1242	1493	1743	1993	2244	2494	2744	250	4-100
35	2995	3245	3495	3746	3996	4246	4496	4747	4997	5247		5-125
36	5497	5747	5998	6248	6498	6748	6998	7248	7498	7748		6-150
37	7998	8248	8498	8748	8998	9248	9498	9748	9998	0248		7-175
38	240.0498	0748	0997	1247	1497	1747	1997	2247	2496	2746		8-200
39	2996	3246	3495	3745	3995	4244	4494	4744	4993	5243		9-225
740	5492	5742	5992	6241	6491	6740	6990	7239	7489	7738		249
41	7988	8237	8487	8736	8985	9235	9484	9734	9983	0232	249	1-25
42	241.0482	0731	0980	1229	1479	1728	1977	2226	2476	2725		2-50
43	2974	3223	3472	3721	3970	4220	4469	4718	4967	5216		3-75
44	5465	5714	5963	6212	6461	6710	6959	7208	7457	7705		4-100
45	7954	8203	8452	8701	8950	9199	9447	9696	9945	0194		5-124
46	242.0442	0691	0940	1189	1437	1686	1935	2183	2432	2680		6-149
47	2929	3178	3426	3675	3923	4172	4420	4669	4917	5166		7-174
48	5414	5663	5911	6160	6408	6656	6905	7153	7401	7650	148	8-199
49	7898	8146	8395	8643	8891	9139	9388	9636	9884	0132		9-124
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to 101000.

N. 17500. L 243

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1750	243.0380	0629	0877	1125	1373	1621	1869	2117	2365	2613	248	247
51	2861	3109	3357	3605	3853	4101	4349	4597	4845	5093		1-25
52	5341	5589	5837	6085	6332	6580	6828	7076	7324	7571		2-49
53	7819	8067	8315	8562	8810	9058	9305	9553	9801	10048		3-74
54	244.0296	0543	0791	1039	1286	1534	1781	2029	2276	2524		4-99
55	2771	3019	3266	3514	3761	4008	4256	4503	4750	4998	247	5-123
56	5245	5492	5740	5987	6234	6482	6729	6976	7223	7470		6-148
57	7718	7965	8212	8459	8706	8953	9200	9448	9695	9942		7-173
58	245.0189	0436	0683	0930	1177	1424	1671	1918	2165	2411		8-198
59	2658	2905	3152	3399	3646	3893	4140	4386	4633	4880		9-222
1760	5127	5373	5620	5867	6114	6360	6607	6854	7100	7347		246
61	7594	7840	8087	8333	8580	8826	9073	9320	9566	9813		1-25
62	246.0059	0306	0552	0798	1045	1291	1538	1784	2030	2277	246	2-49
63	2523	2769	3016	3262	3508	3755	4001	4247	4493	4740		3-74
64	4986	5232	5478	5724	5970	6217	6463	6709	6955	7201		4-198
65	7447	7693	7939	8185	8431	8677	8923	9169	9415	9661		5-123
66	9907	0153	0399	0645	0891	1136	1382	1628	1874	2120		6-148
67	247.2365	2611	2857	3103	3349	3594	3840	4086	4331	4577		7-172
68	4823	5068	5314	5559	5805	6051	6296	6542	6787	7033		8-197
69	7278	7524	7769	8015	8260	8506	8751	8997	9242	9487	245	9-221
1770	9733	9978	0223	0469	0714	0959	1205	1450	1695	1940		245
71	248.2186	2431	2676	2921	3166	3412	3657	3902	4147	4392		1-24
72	4637	4882	5127	5372	5617	5862	6107	6352	6597	6842		2-49
73	7087	7332	7577	7822	8067	8312	8557	8802	9047	9291		3-73
74	9536	9781	0026	0271	0515	0760	1005	1249	1494	1739		4-98
75	249.1984	2228	2473	2718	2962	3207	3451	3696	3941	4185		5-122
76	4430	4674	4919	5163	5408	5652	5897	6141	6385	6630	244	6-147
77	6874	7119	7363	7607	7852	8096	8340	8585	8829	9073		7-171
78	9318	9562	9806	0050	0294	0539	0783	1027	1271	1515		8-196
79	250.1759	2004	2248	2492	2736	2980	3224	3468	3712	3956		9-220
1780	4200	4444	4688	4932	5176	5420	5664	5908	6151	6395		243
81	6639	6883	7127	7371	7614	7858	8102	8346	8590	8833		1-24
82	9077	9321	9564	9808	0052	0295	0539	0782	1026	1270		2-49
83	251.1513	1757	2001	2244	2488	2731	2975	3218	3462	3705		3-73
84	3949	4192	4435	4679	4922	5166	5409	5652	5896	6139	243	4-97
85	6382	6625	6869	7112	7355	7599	7842	8085	8328	8571		5-121
86	8815	9058	9301	9544	9787	0030	0273	0516	0759	1002		6-146
87	252.1246	1489	1732	1975	2218	2461	2703	2946	3189	3432		7-170
88	3675	3918	4161	4404	4647	4889	5132	5375	5618	5861		8-194
89	6103	6346	6589	6832	7074	7317	7560	7802	8045	8288		9-219
1790	8530	8773	9016	9258	9501	9743	9986	0228	0471	0713		242
91	253.0956	1198	1441	1683	1926	2168	2411	2653	2895	3138	242	1-24
92	3380	3622	3865	4107	4349	4592	4834	5076	5318	5561		2-48
93	5803	6045	6287	6529	6772	7014	7256	7498	7740	7982		3-73
94	8224	8466	8709	8951	9193	9435	9677	9919	0161	0403		4-97
95	254.0645	0886	1128	1370	1612	1854	2096	2338	2580	2822		5-121
96	3063	3305	3547	3789	4030	4272	4514	4756	4997	5239		6-145
97	5481	5722	5964	6206	6447	6689	6931	7172	7414	7655		7-169
98	7897	8138	8380	8621	8863	9104	9346	9587	9829	0070	241	8-194
99	255.0312	0553	0794	1036	1277	1519	1760	2001	2242	2484		9-218
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1800	255.2725	2966	3208	3449	3690	3931	4172	4414	4655	4896	241	241
01	5137	5378	5619	5860	6102	6343	6584	6825	7066	7307	1—24	
02	7548	7789	8030	8271	8512	8753	8994	9235	9475	9716	2—48	
03	9957	0198	0439	0680	0921	1161	1402	1643	1884	2125	3—72	
04	256.2265	2606	2847	3087	3328	3569	3810	4050	4291	4531	4—96	
05	4772	5013	5253	5494	5734	5975	6215	6456	6696	6937	5—120	
06	7177	7418	7658	7899	8139	8380	8620	8860	9101	9341	240	6—145
07	9582	9822	0062	0302	0543	0783	1023	1264	1504	1744	7—169	
08	257.1984	2224	2465	2705	2945	3185	3425	3665	3905	4146	8—193	
09	4386	4626	4866	5106	5346	5586	5826	6066	6306	6546	9—217	
1810	6786	7026	7266	7506	7745	7985	8225	8465	8705	8945		239
11	9185	9424	9664	9904	0144	0383	0623	0863	1103	1347	1—24	
12	258.1582	1822	2061	2301	2541	2780	3020	3259	3499	3738	2—48	
13	3978	4218	4457	4697	4936	5176	5415	5655	5894	6133	239	3—72
14	6373	6612	6852	7091	7330	7570	7809	8048	8288	8527	4—96	
15	8766	9006	9245	9484	9723	9963	0202	0441	0680	0919	5—119	
16	259.1158	1398	1637	1876	2115	2354	2593	2832	3071	3310	6—143	
17	3549	3788	4027	4266	4505	4744	4983	5222	5461	5700	7—167	
18	5939	6178	6417	6655	6894	7133	7372	7611	7849	8088	8—191	
19	8327	8566	8804	9043	9282	9521	9759	9998	0237	0475	9—215	
1820	260.0714	0952	1191	1430	1668	1907	2145	2384	2622	2861		238
21	3099	3338	3576	3815	4053	4292	4530	4769	5007	5245	238	1—24
22	5484	5722	5960	6199	6437	6675	6914	7152	7390	7628	2—48	
23	7867	8105	8343	8581	8820	9058	9296	9534	9772	0010	3—71	
24	261.0248	0486	0725	0963	1201	1439	1677	1915	2153	2391	4—95	
25	2629	2867	3105	3343	3580	3818	4056	4294	4532	4770	5—119	
26	5008	5246	5483	5721	5959	6197	6435	6672	6910	7148	6—143	
27	7385	7623	7861	8099	8336	8574	8811	9049	9287	9524	7—167	
28	9762	9999	0237	0475	0712	0950	1187	1425	1662	1900	8—191	
29	262.2137	2374	2612	2849	3087	3324	3562	3799	4036	4274	237	9—214
1830	4511	4748	4986	5223	5460	5697	5935	6172	6409	6646		237
31	6883	7121	7358	7595	7832	8069	8306	8543	8781	9018	1—24	
32	9255	9492	9729	9966	0203	0440	0677	0914	1151	1388	2—47	
33	263.1625	1862	2098	2335	2572	2809	3046	3283	3520	3757	3—71	
34	3993	4230	4467	4704	4940	5177	5414	5651	5887	6124	4—95	
35	6361	6597	6834	7071	7307	7544	7780	8017	8254	8490	5—118	
36	8727	8963	9200	9436	9673	9909	0146	0382	0619	0855	236	6—142
37	264.1092	1328	1564	1801	2037	2273	2510	2746	2982	3219	7—166	
38	3455	3691	3928	4164	4400	4636	4873	5109	5345	5581	8—190	
39	5817	6053	6290	6526	6762	6998	7234	7470	7706	7942	9—213	
1840	8178	8414	8650	8886	9122	9358	9594	9830	0066	0302		235
41	265.0538	0774	1010	1246	1481	1717	1953	2189	2425	2660	1—23	
42	2896	3132	3368	3604	3839	4075	4311	4546	4782	5018	2—47	
43	5253	5489	5725	5960	6196	6431	6667	6903	7138	7374	3—70	
44	7609	7845	8080	8316	8551	8787	9022	9257	9493	9728	235	4—94
45	9964	0199	0434	0670	0905	1140	1376	1611	1846	2082	5—117	
46	266.2317	2552	2787	3023	3258	3493	3728	3963	4199	4434	6—141	
47	4669	4904	5139	5374	5609	5844	6080	6315	6550	6785	7—164	
48	7020	7255	7490	7725	7960	8195	8429	8664	8899	9134	8—188	
49	9369	9604	9839	0074	0309	0543	0778	1013	1248	1483	9—211	
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1850	267.1717	1952	2187	2421	2656	2891	3126	3360	3595	3830	235	234
51	4064	4299	4533	4768	5003	5237	5472	5706	5941	6175	1-23	
52	6410	6644	6879	7113	7348	7582	7817	8051	8285	8520	234	2-47
53	8754	8989	9223	9457	9692	9926	0160	0394	0629	0863	3-70	
54	268.1097	1332	1566	1800	2034	2268	2503	2737	2971	3205	4-94	
55	3439	3673	3907	4141	4376	4610	4844	5078	5312	5546	5-117	
56	5780	6014	6248	6482	6716	6950	7183	7417	7651	7885	6-140	
57	8119	8353	8587	8821	9054	9288	9522	9756	9990	0223	7-164	
58	269.0457	0691	0925	1158	1392	1626	1859	2093	2327	2560	8-187	
59	2794	3028	3261	3495	3728	3962	4195	4429	4662	4896	9-211	
1860	5129	5363	5596	5830	6063	6297	6530	6764	6997	7230	233	233
61	7464	7697	7930	8164	8397	8630	8864	9097	9330	9564	1-23	
62	9797	0030	0263	0496	0730	0963	1195	1429	1662	1895	2-47	
63	270.2129	2362	2595	2828	3061	3294	3527	3760	3993	4226	3-70	
64	4459	4692	4925	5158	5391	5624	5857	6090	6323	6555	4-93	
65	6788	7021	7254	7487	7720	7953	8185	8418	8651	8884	5-116	
66	9116	9349	9582	9815	0047	0280	0513	0745	0978	1211	6-140	
67	71.1443	1676	1908	2141	2374	2606	2839	3071	3304	3536	7-163	
68	3769	4001	4234	4466	4699	4931	5163	5395	5628	5861	732	8-186
69	6093	6325	6558	6790	7022	7255	7487	7719	7952	8184	9-210	
1870	8416	8648	8881	9113	9345	9577	9809	0041	0274	0506		232
71	272.0738	0970	1202	1434	1666	1898	2130	2362	2594	2826	1-23	
72	3058	3290	3522	3754	3986	4218	4450	4682	4914	5146	2-46	
73	5378	5610	5841	6073	6305	6537	6769	7001	7232	7464	3-70	
74	7696	7928	8159	8391	8623	8854	9086	9318	9549	9781	4-93	
75	273.0013	0244	0476	0708	0939	1171	1402	1634	1865	2097	5-116	
76	2328	2560	2791	3023	3254	3486	3717	3949	4180	4411	231	6-139
77	4643	4874	5105	5337	5568	5799	6031	6262	6493	6725	7-162	
78	6956	7187	7418	7650	7881	8112	8343	8574	8806	9037	8-186	
79	9268	9499	9730	9961	0192	0423	0654	0885	1116	1347	9-209	
1880	274.1578	1809	2040	2271	2502	2733	2964	3195	3426	3657		230
81	3888	4119	4350	4581	4811	5042	5273	5504	5735	5965	1-23	
82	6196	6427	6658	6888	7119	7350	7581	7811	8042	8273	2-46	
83	8503	8734	8964	9195	9426	9656	9887	0117	0348	0578	3-59	
84	275.0809	1039	1270	1500	1731	1961	2192	2422	2653	2883	4-92	
85	3114	3344	3574	3805	4035	4265	4496	4726	4956	5187	230	5-115
86	5417	5647	5877	6108	6338	6568	6798	7028	7259	7489	6-138	
87	7719	7949	8179	8409	8640	8870	9100	9330	9560	9790	7-161	
88	276.0020	0250	0480	0710	0940	1170	1400	1630	1860	2090	8-184	
89	2320	2549	2779	3009	3239	3469	3699	3929	4158	4388	9-207	
1890	4518	4848	5078	5307	5537	5767	5997	6226	6456	6686		229
91	6915	7145	7375	7604	7834	8063	8293	8523	8752	8982	1-23	
92	9211	9441	9670	9900	0129	0359	0588	0818	1047	1277	229	2-16
93	277.1506	1736	1965	2194	2424	2653	2882	3112	3341	3570	3-59	
94	3800	4029	4258	4488	4717	4946	5175	5405	5634	5863	4-92	
95	6092	6321	6550	6780	7009	7238	7467	7696	7925	8154	5-114	
96	8383	8612	8841	9070	9299	9528	9757	9986	0215	0444	6-137	
97	278.0672	0902	1131	1360	1589	1818	2047	2276	2504	2733	7-60	
98	2962	3191	3420	3648	3877	4106	4335	4564	4792	5021	8-183	
99	5250	5478	5707	5936	6164	6393	6622	6850	7079	7307	9-206	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1900	278.7536	7765	7993	8222	8450	8679	8907	9136	9364	9593	229	228
01	9821	0050	0278	0506	0735	0964	1192	1420	1648	1877	228	1-23
02	279.2105	2333	2562	2790	3018	3247	3475	3703	3931	4160		2-46
03	4388	4616	4844	5072	5301	5529	5757	5985	6213	6441		3-68
04	6669	6898	7126	7354	7582	7810	8038	8266	8494	8722		4-91
05	8950	9178	9406	9634	9862	0090	0317	0545	0773	1001		5-114
06	280.1229	1457	1685	1912	2140	2368	2596	2824	3051	3279		6-137
07	3507	3735	3962	4190	4418	4645	4873	5101	5328	5556		7-160
08	5784	6011	6239	6467	6694	6922	7149	7377	7604	7832		8-182
09	8059	8287	8514	8742	8969	9197	9424	9651	9879	0106	227	9-205
1910	281.0334	0561	0788	1016	1243	1470	1698	1925	2152	2380		227
11	2607	2834	3061	3289	3516	3743	3970	4197	4425	4652		1-223
12	4879	5106	5333	5560	5787	6014	6242	6469	6696	6923		2-45
13	7150	7377	7604	7831	8058	8285	8512	8739	8966	9192		3-68
14	9419	9646	9873	0100	0327	0554	0781	1007	1234	1461		4-91
15	282.1688	1915	2141	2368	2595	2822	3048	3275	3502	3728		5-113
16	3955	4182	4408	4635	4862	5088	5315	5541	5768	5995		6-136
17	6221	6448	6674	6901	7127	7354	7580	7807	8033	8260	226	7-159
18	8486	8712	8939	9165	9392	9618	9844	0071	0297	0523		8-182
19	283.0759	0976	1202	1429	1655	1881	2107	2334	2560	2786		9-204
1920	3012	3238	3465	3691	3917	4143	4369	4595	4821	5048		226
21	5274	5500	5726	5952	6178	6404	6630	6856	7082	7308		1-23
22	7534	7760	7986	8212	8438	8663	8889	9115	9341	9567		2-45
23	9793	0019	0245	0470	0696	0922	1148	1373	1599	1825		3-68
24	284.2051	2276	2502	2728	2953	3179	3405	3630	3856	4082		4-90
25	4307	4533	4759	4984	5210	5435	5661	5886	6112	6337		5-113
26	6563	6788	7014	7239	7465	7690	7916	8141	8366	8592	225	6-136
27	8817	9043	9268	9493	9719	9944	0169	0394	0620	0845		7-158
28	285.1070	1296	1521	1746	1971	2196	2422	2647	2872	3097		8-181
29	3222	3547	3773	3998	4223	4448	4673	4898	5123	5348		9-203
1930	5573	5798	6023	6248	6473	6698	6923	7148	7373	7598		224
31	7823	8048	8273	8497	8722	8947	9172	9397	9622	9846		1-22
32	286.0071	0296	0521	0746	0970	1195	1420	1644	1869	2094		2-45
33	2319	2543	2768	2993	3217	3442	3666	3891	4116	4340		3-67
34	4565	4789	5014	5238	5463	5687	5912	6136	6361	6585	224	4-90
35	6810	7034	7259	7483	7707	7932	8156	8381	8605	8829		5-112
36	9054	9278	9502	9726	9951	0175	0399	0624	0848	1072		6-134
37	287.1296	1521	1745	1969	2193	2417	2641	2865	3090	3314		7-157
38	3538	3762	3986	4210	4434	4658	4882	5106	5330	5554		8-179
39	5778	6002	6226	6450	6674	6898	7122	7346	7570	7793		9-202
1940	8017	8241	8465	8689	8913	9136	9360	9584	9808	0032		223
41	288.0255	0479	0703	0927	1151	1374	1598	1821	2045	2269		1-22
42	2492	2716	2939	3163	3387	3610	3834	4057	4281	4504		2-45
43	4728	4952	5175	5399	5622	5845	6069	6292	6516	6739	223	3-67
44	6963	7186	7409	7633	7856	8079	8303	8526	8749	8973		4-89
45	9196	9419	9643	9866	1089	0312	0536	0759	0982	1205		5-111
46	289.1428	1652	1875	2098	2321	2544	2767	2990	3213	3436		6-134
47	3660	3883	4106	4329	4552	4775	4998	5221	5444	5667		7-156
48	5890	6112	6335	6558	6781	7004	7227	7450	7673	7896		8-178
49	8118	8341	8564	8787	9010	9232	9455	9678	9901	0123		9-201
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 19500. L. 29c

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1950	290.0346	0569	0792	1014	1237	1460	1682	1905	2127	2350	223	222
51	2573	2795	3018	3240	3463	3686	3908	4131	4353	4576		1-22
52	4798	5021	5243	5466	5688	5910	6133	6355	6578	6800	222	2-44
53	7022	7245	7467	7690	7912	8133	8256	8579	8801	9023		3-67
54	9246	9468	9690	9912	0135	0357	0579	0801	1023	1245		4-89
55	291.1468	1690	1912	2134	2356	2578	2800	3022	3244	3466		5-111
56	3689	3911	4133	4355	4577	4799	5020	5242	5464	5686		6-133
57	5908	6130	6352	6574	6796	7018	7240	7461	7683	7905		7-155
58	8127	8349	8570	8792	9014	9236	9458	9679	9901	0123		8-178
59	292.0344	0566	0788	1009	1231	1453	1674	1896	2118	2339		9-200
1960	2561	2782	3004	3225	3447	3668	3890	4111	4333	4554		221
61	4776	4997	5219	5440	5662	5883	6105	6326	6547	6769	221	1-22
62	6990	7211	7433	7654	7875	8097	8318	8539	8760	8982		2-44
63	9203	9424	9645	9867	0088	0309	0530	0751	0973	1194		3-66
64	293.1415	1636	1857	2078	2299	2520	2741	2962	3183	3405		4-88
65	3626	3847	4068	4289	4510	4730	4951	5172	5393	5614		5-110
66	5835	6056	6277	6498	6719	6940	7160	7381	7602	7823		6-133
67	8044	8264	8485	8706	8927	9147	9368	9589	9810	0030		7-155
68	294.0251	0472	0692	0913	1134	1354	1575	1795	2016	2237		8-177
69	2457	2678	2898	3119	3339	3560	3780	4001	4221	4442		9-199
1970	4662	4883	5103	5324	5544	5764	5985	6205	6426	6646	220	220
71	6866	7087	7307	7527	7748	7968	8188	8408	8629	8849		1-22
72	9069	9289	9510	9730	9950	0170	0390	0610	0831	1051		2-44
73	295.1271	1491	1711	1931	2151	2371	2591	2811	3031	3251		3-66
74	3471	3691	3911	4131	4351	4571	4791	5011	5231	5451		4-88
75	5671	5891	6111	6331	6550	6770	6990	7210	7430	7650		5-110
76	7869	8089	8309	8529	8748	8968	9188	9408	9627	9847		6-132
77	296.0067	0286	0506	0726	0945	1165	1385	1604	1824	2043		7-154
78	2263	2482	2702	2922	3141	3361	3580	3800	4019	4238		8-176
79	4458	4677	4897	5116	5336	5555	5774	5994	6213	6433	219	9-198
1980	6642	6871	7091	7310	7529	7748	7968	8187	8406	8626		219
81	8845	9064	9283	9502	9722	9941	0160	0379	0598	0817		1-22
82	297.1037	1256	1475	1694	1913	2132	2351	2570	2789	3008		2-44
83	3227	3446	3665	3884	4103	4322	4541	4760	4979	5198		3-66
84	5417	5636	5854	6073	6292	6511	6730	6949	7168	7386		4-88
85	7605	7824	8043	8261	8480	8699	8918	9136	9355	9574		5-109
86	9792	0011	0230	0448	0667	0886	1104	1323	1542	1760		6-131
87	298.1979	2197	2416	2634	2853	3071	3290	3508	3727	3945		7-153
88	4164	4382	4601	4819	5038	5256	5474	5693	5911	6129	218	8-175
89	6348	6566	6785	7003	7221	7439	7658	7876	8094	8313		9-197
1990	8531	8749	8967	9185	9404	9622	9840	0058	0276	0494		218
91	299.0713	0931	1149	1367	1585	1803	2021	2239	2457	2675		1-22
92	2893	3111	3329	3547	3765	3983	4201	4419	4637	4855		2-44
93	5073	5291	5509	5727	5945	6162	6380	6598	6816	7034		3-65
94	7252	7469	7687	7905	8123	8340	8558	8776	8994	9211		4-87
95	9429	9647	9864	0082	0300	0517	0735	0953	1170	1388		5-109
96	300.1605	1823	2041	2258	2476	2693	2911	3128	3346	3563		6-131
97	3781	3998	4216	4433	4650	4868	5085	5303	5520	5737	217	7-153
98	5955	6172	6390	6607	6824	7042	7259	7476	7693	7911		8-174
99	8128	8345	8562	8780	8997	9214	9431	9648	9866	0083		9-196
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2000	301.0300	0517	0734	0951	1168	1386	1603	1820	2037	2254	217	217
01	2471	2688	2905	3122	3339	3556	3773	3990	4207	4424		1-22
02	4641	4858	5075	5291	5508	5725	5942	6159	6376	6593		2-43
03	6809	7026	7243	7460	7677	7893	8110	8327	8544	8760		3-65
04	8977	9194	9411	9627	9844	0061	0277	0493	0711	0927		4-87
05	302.1144	1360	1577	1794	2010	2227	2443	2660	2876	3093		5-108
06	3309	3526	3742	3959	4175	4392	4608	4825	5041	5258	216	6-130
07	5474	5690	5906	6123	6339	6556	6772	6988	7204	7421		7-152
08	7637	7853	8070	8286	8502	8718	8935	9151	9367	9583		8-174
09	9799	0015	0232	0448	0664	0880	1096	1312	1528	1745		9-195
2010	303.1961	2177	2393	2609	2825	3041	3257	3473	3689	3905		216
11	4121	4337	4553	4769	4984	5200	5416	5632	5848	6064		1-22
12	6280	6496	6711	6927	7143	7359	7575	7790	8006	8222		2-43
13	8438	8653	8869	9085	9301	9516	9732	9948	0163	0379		3-65
14	304.0595	0810	1026	1242	1457	1673	1888	2104	2319	2535		4-46
15	2751	2966	3182	3397	3613	3828	4043	4259	4474	4690	215	5-108
16	4905	5121	5336	5552	5767	5982	6198	6413	6628	6844		6-130
17	7059	7274	7490	7705	7920	8135	8351	8566	8781	8996		7-151
18	9212	9427	9642	9857	0072	0288	0503	0718	0933	1148		8-173
19	305.1363	1578	1793	2008	2224	2439	2654	2869	3084	3299		9-194
2020	3514	3729	3944	4159	4374	4589	4803	5018	5233	5448		214
21	5663	5878	6093	6308	6523	6737	6952	7167	7382	7597		1-21
22	7812	8026	8241	8456	8671	8885	9100	9315	9529	9744		2-43
23	9959	0174	0388	0603	0817	1032	1247	1461	1676	1891		3-64
24	306.2105	2320	2534	2749	2963	3178	3392	3607	3821	4036		4-86
25	4250	4465	4679	4894	5108	5322	5537	5751	5966	6180	214	5-107
26	6394	6609	6823	7037	7252	7466	7680	7895	8109	8323		6-128
27	8537	8752	8966	9180	9394	9609	9823	0037	0251	0465		7-150
28	307.0680	0894	1108	1322	1536	1750	1964	2178	2392	2606		8-171
29	2820	3035	3249	3463	3677	3890	4105	4319	4532	4746		9-193
2030	4260	5174	5388	5602	5816	6030	6244	6458	6672	6885		213
31	7099	7313	7527	7741	7954	8168	8382	8596	8810	9023		1-21
32	9237	9451	9664	9878	0092	0306	0519	0733	0947	1160		2-43
33	308.1374	1587	1801	2015	2228	2442	2655	2869	3082	3296		3-64
34	3509	3723	3936	4150	4363	4577	4790	5004	5217	5431	213	4-85
35	5644	5858	6071	6284	6498	6711	6924	7138	7351	7564		5-106
36	7778	7991	8204	8418	8631	8844	9057	9271	9484	9697		6-128
37	9910	0123	0337	0550	0763	0976	1189	1402	1616	1829		7-149
38	309.2042	2255	2468	2681	2894	3107	3320	3533	3746	3959		8-170
39	4172	4385	4598	4811	5024	5237	5450	5663	5876	6089		9-192
2040	6302	6515	6727	6940	7153	7366	7579	7792	8004	8217		212
41	8430	8643	8856	9068	9281	9494	9707	9919	0132	0345		1-21
42	310.0557	0770	0983	1195	1408	1621	1833	2046	2258	2471		2-42
43	2684	2896	3109	3321	3534	3746	3959	4171	4384	4596		3-64
44	4809	5021	5234	5446	5659	5871	6084	6296	6508	6721	212	4-85
45	6933	7145	7358	7570	7783	7995	8207	8419	8632	8844		5-106
46	9056	9269	9481	9693	9905	0117	0330	0542	0754	0966		6-127
47	311.1178	1391	1603	1815	2027	2239	2451	2663	2875	3087		7-148
48	3300	3512	3724	3936	4148	4360	4572	4784	4996	5208		8-170
49	5420	5632	5843	6055	6267	6479	6691	6903	7115	7327		9-191
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 20500. L. 311

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2040	311.7539	7750	7962	8174	8386	8598	8810	9021	9233	9445	212	211
51	9657	9868	0080	0292	0504	0715	0927	1139	1350	1562		1-21
52	312.1774	1985	2197	2408	2620	2832	3043	3255	3466	3678		2-42
53	3889	4101	4313	4524	4735	4947	5159	5370	5581	5793	211	3-63
54	6004	6216	6427	6639	6850	7061	7273	7484	7696	7907		4-84
55	8118	8329	8541	8752	8964	9175	9386	9597	9809	0020		5-105
56	313.0231	0442	0654	0865	1076	1287	1498	1709	1921	2132		6-127
57	2343	2554	2765	2976	3187	3398	3610	3820	4032	4243		7-148
58	4454	4665	4876	5087	5298	5509	5720	5931	6142	6353		8-169
59	6563	6774	6985	7196	7407	7618	7829	8040	8251	8461		9-190
2060	8675	8883	9094	9305	9515	9726	9937	0148	0358	0569		210
61	314.0780	0991	1201	1412	1623	1833	2044	2255	2465	2676		1-21
62	2887	3097	3308	3518	3729	3939	4150	4361	4571	4782		2-42
63	4992	5203	5413	5624	5834	6045	6255	6466	6676	6887	210	3-63
64	7097	7307	7518	7728	7938	8149	8359	8569	8780	8990		4-84
65	9201	9411	9621	9831	0042	0252	0462	0672	0883	1093		5-105
66	315.1303	1513	1724	1934	2144	2354	2564	2774	2985	3195		6-126
67	3405	3615	3825	4035	4245	4455	4665	4875	5085	5295		7-147
68	5505	5715	5925	6135	6345	6555	6765	6975	7185	7395		8-168
69	7505	7715	7925	8135	8345	8554	8864	9074	9284	9494		9-189
2070	9703	9913	0123	0333	0543	0752	0962	1172	1382	1591		209
71	316.1801	2011	2220	2430	2640	2849	3059	3269	3478	3688		1-21
72	3898	4107	4317	4526	4736	4945	5155	5364	5574	5784		2-42
73	5993	6203	6412	6621	6831	7040	7250	7459	7669	7878	209	3-63
74	8088	8297	8506	8716	8925	9134	9344	9553	9762	9972		4-84
75	317.0181	0390	0600	0809	1018	1227	1437	1646	1855	2064		5-104
76	2273	2483	2692	2901	3110	3319	3528	3738	3947	4156		6-125
77	4365	4574	4783	4992	5201	5410	5619	5828	6037	6246		7-146
78	6455	6664	6873	7082	7291	7500	7709	7918	8127	8336		8-167
79	8545	8754	8963	9172	9380	9589	9798	0007	0216	0425		9-188
2080	318.0633	0842	1051	1260	1468	1677	1886	2095	2303	2512		208
81	2721	2929	3138	3347	3556	3764	3973	4181	4390	4599		1-21
82	4807	5016	5224	5433	5642	5850	6059	6267	6476	6684		2-42
83	6893	7101	7310	7518	7727	7935	8143	8352	8560	8769	208	3-62
84	8977	9186	9394	9602	9811	0019	0227	0436	0644	0852		4-83
85	319.1061	1269	1477	1685	1894	2102	2310	2518	2727	2935		5-104
86	3143	3351	3559	3768	3976	4184	4392	4600	4808	5016		6-125
87	5224	5433	5641	5849	6057	6265	6473	6681	6889	7097		7-146
88	7305	7513	7721	7929	8137	8345	8553	8761	8969	9176		8-166
89	9384	9592	9800	0008	0216	0424	0632	0839	1047	1255		9-187
2090	320.1463	1671	1878	2086	2294	2502	2709	2917	3125	3333		207
91	3540	3748	3956	4163	4371	4579	4786	4994	5202	5409		1-21
92	5617	5824	6032	6240	6447	6655	6862	7070	7277	7485		2-41
93	7692	7900	8107	8315	8522	8730	8937	9145	9352	9559	207	3-62
94	9767	9974	0182	0389	0596	0804	1011	1218	1426	1633		4-83
95	321.1840	2048	2255	2462	2669	2877	3084	3291	3498	3706		5-103
96	3913	4120	4327	4534	4742	4949	5156	5363	5570	5777		6-124
97	5984	6191	6398	6606	6813	7020	7227	7434	7641	7848		7-145
98	8055	8262	8469	8676	8883	9090	9297	9504	9710	9917		8-166
99	322.0124	0331	0538	0745	0952	1159	1366	1572	1779	1986		9-186
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Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2100	322.2193	2400	2607	2813	3020	3227	3434	3640	3847	4054	207	207
01	4261	4467	4674	4881	5087	5294	5501	5707	5914	6121	1-21	
02	6327	6534	6740	6947	7153	7360	7567	7773	7980	8186	2-41	
03	8393	8599	8806	9012	9219	9425	9632	9838	0045	0251	206	3-62
04	323.0457	0664	0870	1077	1283	1489	1696	1902	2108	2315	4-63	
05	2521	2727	2934	3140	3346	3552	3759	3965	4171	4377	5-103	
06	4584	4790	4996	5202	5408	5615	5821	6027	6233	6439	6-124	
07	6645	6851	7058	7264	7470	7676	7882	8088	8294	8500	7-145	
08	8706	8912	9118	9324	9530	9736	9942	0148	0354	0560	8-168	
09	324.0766	0972	1178	1384	1589	1795	2001	2207	2413	2619	9-186	
2110	2825	3030	3236	3442	3648	3854	4059	4265	4471	4677	206	
11	4882	5088	5294	5499	5705	5911	6117	6322	6528	6734	1-21	
12	6939	7145	7350	7556	7762	7967	8173	8378	8584	8789	2-41	
13	8995	9200	9406	9612	9817	0023	0228	0433	0639	0844	205	3-62
14	325.1050	1255	1461	1666	1872	2077	2282	2488	2693	2898	4-82	
15	3104	3309	3514	3720	3925	4130	4336	4541	4746	4951	5-103	
16	5157	5362	5567	5772	5978	6183	6388	6593	6798	7003	6-124	
17	7209	7414	7619	7824	8029	8234	8439	8644	8849	9055	7-144	
18	9260	9465	9670	9875	0080	0285	0490	0595	0900	1105	8-165	
19	326.1310	1515	1719	1924	2129	2334	2539	2744	2949	3154	9-185	
2120	3359	3563	3768	3973	4178	4383	4588	4792	4997	5202	205	
21	5407	5611	5816	6021	6226	6430	6635	6840	7044	7249	1-20	
22	7454	7658	7863	8068	8272	8477	8682	8886	9091	9295	2-41	
23	9500	9705	9909	0114	0318	0523	0727	0932	1136	1341	3-61	
24	327.1545	1750	1954	2158	2363	2567	2772	2976	3181	3385	204	4-82
25	3589	3794	3998	4202	4407	4611	4815	5020	5224	5428	5-102	
26	5633	5837	6041	6245	6450	6654	6858	7062	7267	7471	6-123	
27	7675	7879	8083	8287	8492	8696	8900	9104	9308	9512	7-143	
28	9716	9920	0124	0328	0533	0737	0940	1145	1349	1553	8-164	
29	328.1757	1961	2165	2369	2572	2776	2980	3184	3388	3592	9-184	
2130	3796	4000	4204	4408	4612	4815	5019	5223	5427	5631	204	
31	5834	6038	6242	6446	6650	6853	7057	7261	7465	7668	1-20	
32	7872	8076	8279	8483	8687	8890	9094	9298	9501	9705	2-41	
33	9909	0112	0316	0519	0723	0926	1130	1334	1537	1741	3-61	
34	329.1944	2148	2351	2555	2758	2962	3165	3369	3572	3775	203	4-82
35	3979	4182	4386	4589	4792	4996	5199	5402	5606	5809	5-102	
36	6019	6216	6419	6622	6826	7029	7232	7435	7639	7842	6-122	
37	8045	8248	8452	8655	8858	9061	9264	9468	9671	9874	7-143	
38	330.0077	0280	0483	0686	0889	1093	1296	1499	1702	1905	8-163	
39	2108	2311	2514	2717	2920	3123	3326	3529	3732	3935	9-184	
2140	4138	4341	4544	4747	4949	5152	5355	5558	5761	5964	203	
41	6167	6370	6572	6775	6978	7181	7384	7586	7789	7992	1-20	
42	8195	8397	8600	8803	9006	9208	9411	9614	9816	0019	2-41	
43	331.0222	0424	0627	0830	1032	1235	1437	1640	1843	2045	3-61	
44	2248	2450	2653	2855	3058	3261	3463	3666	3868	4070	4-81	
45	4273	4475	4678	4880	5083	5285	5488	5690	5892	6095	202	5-101
46	6297	6500	6702	6904	7107	7309	7511	7714	7916	8118	6-122	
47	8320	8523	8725	8927	9129	9332	9534	9736	9938	0141	7-144	
48	332.0343	0545	0747	0949	1151	1354	1556	1758	1960	2162	8-165	
49	2364	2566	2768	2970	3172	3374	3577	3779	3981	4183	9-183	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 21500. L. 332

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2150	332.4385	4587	4789	4991	5193	5394	5596	5798	6000	6202	202	202
51	6404	6606	6808	7010	7212	7414	7615	7817	8019	8221		1-20
52	8423	8624	8826	9028	9230	9432	9633	9835	0037	0239		2-40
53	333.0440	0642	0844	1045	1247	1449	1650	1852	2054	2255		3-60
54	2457	2659	2860	3062	3263	3465	3667	3868	4070	4271		4-80
55	4473	4674	4876	5077	5279	548	5682	5883	6085	6286	201	5-100
56	6488	6689	6890	7092	7293	7495	7696	7897	8099	8300		6-120
57	8501	8703	8904	9105	9307	9508	9709	9911	0112	0313		7-140
58	334.0514	0716	0917	1118	1319	1521	1722	1923	2124	2325		8-160
59	2526	2728	2929	3130	3331	3532	3733	3934	4135	4336		9-180
2160	4538	4739	494	5141	5342	5543	5744	5945	6146	6347		201
61	6548	6749	6950	7151	7351	7552	7753	7954	8155	8356		1-20
62	8557	8758	8959	9150	9360	9561	9762	9963	0164	0364		2-40
63	335.0565	0766	0967	1168	1368	1569	1770	1970	2171	2372		3-60
64	2573	2773	2974	3175	3375	3576	3777	3977	4178	4378		4-80
65	4579	4780	4980	5181	5381	5582	5782	5983	6183	6384		5-100
66	6585	6785	6986	7186	7386	7587	7787	7988	8188	8389	200	6-120
67	8589	8790	8990	9190	9391	9591	9791	9992	0192	0392		7-140
68	336.0593	0793	0993	1194	1394	1594	1795	1995	2195	2395		8-160
69	2596	2796	2996	3196	3396	3597	3797	3997	4197	4397		9-180
2170	4597	4797	4998	5198	5398	5598	5798	5998	6198	6398		200
71	6598	6798	6998	7198	7398	7598	7798	7998	8198	8398		1-20
72	8598	8798	8998	9198	9398	9598	9798	9998	0198	0397		2-40
73	337.0597	0797	0997	1197	1397	1596	1796	1996	2196	2396		3-60
74	2595	2795	2995	3195	3394	3594	3794	3994	4193	4393		4-80
75	4593	4794	4992	5192	5391	5591	5791	5992	6190	6389		5-100
76	6589	6788	6988	7188	7387	7587	7786	7986	8185	8385		6-120
77	8584	8784	8983	9183	9382	9582	9781	9981	0180	0379	190	7-140
78	338.0579	0778	0978	1177	1376	1576	1775	1974	2174	2373		8-160
79	2572	2772	2971	3170	3369	3569	3768	3967	4166	4366		9-180
2180	4565	4764	4963	5163	5362	5561	5760	5959	6158	6358		199
81	6557	6756	6955	7154	7353	7552	7751	7950	8149	8348		1-20
82	8547	8746	8946	9145	9344	9543	9742	9940	0139	0338		2-40
83	339.0537	0737	0935	1134	1333	1532	1731	1930	2129	2327		3-60
84	2526	2725	2924	3123	3322	3520	3719	3918	4117	4316		4-80
85	4514	4713	4912	5111	5309	5508	5707	5906	6104	6303		5-99
86	6502	6700	6899	7098	7296	7495	7693	7892	8091	8289		6-119
87	8488	8686	8885	9084	9282	9481	9679	9878	0076	0275		7-139
88	340.0473	0672	0870	1069	1267	1466	1664	1862	2061	2259	198	8-159
89	2458	2656	2854	3053	3251	3449	3648	3846	4045	4243		9-179
2190	4441	4639	4838	5036	5234	5433	5631	5829	6027	6226		198
91	6424	6622	6820	7018	7217	7415	7613	7811	8009	8207		1-20
92	8405	8604	8802	9000	9198	9396	9594	9792	9990	0188		2-40
93	341.0385	0584	0782	0980	1178	1376	1574	1772	1970	2168		3-59
94	2366	2564	2762	2960	3158	3356	3554	3752	3950	4147		4-79
95	4345	4543	4741	4939	5137	5334	5532	5730	5928	6126		5-99
96	6323	6521	6719	6917	7114	7312	7510	7707	7905	8103		6-119
97	8301	8498	8696	8894	9091	9289	9486	9684	9882	0079		7-139
98	342.0277	0474	0672	0870	1067	1265	1462	1660	1857	2055		8-158
99	2252	2450	2647	2845	3042	3240	3437	3635	3832	4029	197	9-178
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pcs.
2200	342.4227	4424	4622	4819	5016	5214	5411	5608	5806	6003	197	197
01	6200	6398	6595	6792	6990	7187	7384	7581	7779	7976		1-20
02	8173	8370	8568	8765	8962	9159	9356	9554	9751	9948		2-39
03	343.0145	0342	0539	0736	0933	1131	1328	1525	1722	1919		3-59
04	2116	2313	2510	2707	2904	3101	3298	3495	3692	3889		4-79
05	4086	4283	4480	4677	4874	5071	5268	5464	5661	5858		5-98
06	6055	6252	6449	6646	6842	7039	7236	7433	7630	7827		6-118
07	8023	8220	8417	8614	8810	9007	9204	9401	9597	9794		7-138
08	9991	0187	0384	0581	0777	0974	1171	1367	1564	1761		8-158
09	344.1957	2154	2350	2547	2743	2940	3137	3333	3530	3726		9-177
2210	3923	4119	4316	4512	4709	4905	5102	5298	5495	5691	196	196
11	5887	6084	6280	6477	6673	6869	7066	7262	7459	7655		1-20
12	7851	8048	8244	8440	8636	8833	9029	9225	9422	9618		2-39
13	9814	0010	0207	0403	0599	0795	0991	1188	1384	1580		3-59
14	345.1776	1972	2168	2365	2561	2757	2953	3149	3345	3541		4-78
15	3737	3933	4129	4325	4522	4718	4914	5110	5306	5502		5-98
16	5698	5894	6090	6285	6481	6677	6873	7069	7265	7461		6-118
17	7657	7853	8049	8245	8440	8636	8832	9028	9224	9420		7-137
18	9615	9811	0007	0203	0399	0594	0790	0986	1182	1377		8-157
19	346.1573	1769	1964	2160	2356	2551	2747	2943	3138	3334		9-176
2220	3530	3725	3921	4117	4312	4508	4703	4899	5094	5290		195
21	5486	5681	5877	6072	6268	6463	6659	6854	7050	7245	195	1-19
22	7441	7636	7831	8027	8222	8418	8613	8808	9004	9199		2-39
23	9395	9590	9785	9981	0176	0371	0567	0762	0957	1153		3-58
24	347.1348	1543	1738	1934	2129	2324	2519	2715	2910	3105		4-78
25	3300	3495	3691	3886	4081	4276	4471	4666	4861	5056		5-97
26	5252	5447	5642	5837	6032	6227	6422	6617	6812	7007		6-117
27	7202	7397	7592	7787	7982	8177	8372	8567	8762	8957		7-136
28	9152	9347	9542	9737	9931	0126	0321	0516	0711	0906		8-156
29	348.1101	1296	1490	1685	1880	2075	2270	2464	2659	2854		9-175
2230	3049	3243	3438	3633	3828	4022	4217	4412	4606	4801		194
31	4996	5190	5385	5580	5774	5969	6164	6358	6553	6747		1-19
32	6942	7136	7331	7526	7720	7915	8109	8304	8498	8693		2-39
33	8887	9082	9276	9471	9665	9860	0054	0248	0443	0637	194	3-58
34	349.0832	1026	1220	1415	1609	1804	1998	2192	2387	2581		4-78
35	2775	2970	3164	3358	3552	3747	3941	4135	4330	4524		5-97
36	4718	4912	5106	5301	5495	5689	5883	6077	6272	6466		6-116
37	6660	6854	7048	7242	7436	7630	7825	8019	8213	8407		7-136
38	8601	8795	8989	9183	9377	9571	9765	9959	0153	0347		8-155
39	350.0541	0735	0929	1123	1317	1511	1705	1898	2092	2286		9-175
2240	2487	2674	2868	3062	3256	3449	3643	3837	4031	4225		
41	4419	4612	4806	5000	5194	5387	5581	5775	5969	6162		
42	6356	6550	6743	6937	7131	7325	7518	7712	7905	8099		
43	8293	8486	8680	8874	9067	9261	9454	9648	9841	0035		
44	351.0223	0422	0616	0809	1003	1196	1390	1583	1777	1970	193	
45	2163	2357	2550	2744	2937	3131	3324	3517	3711	3904		
46	4098	4291	4484	4678	4871	5064	5258	5451	5644	5837		
47	6031	6224	6417	6611	6804	6997	7190	7383	7577	7770		
48	7963	8156	8349	8543	8736	8929	9122	9315	9508	9701		
49	9895	0088	0281	0474	0667	0860	1053	1246	1439	1632		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 22500. L. 352

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
2250	352.1825	2018	2211	2404	2597	2790	2983	3176	3369	3562	193	193
51	3755	3948	4141	4334	4527	4720	4912	5105	5298	5491		1-19
52	5684	5877	6070	6262	6455	6648	6841	7034	7226	7419		2-38
53	7612	7805	7997	8190	8383	8576	8768	8961	9154	9346		3-58
54	9539	9732	9924	0117	0310	0502	0695	0888	1080	1273		4-77
55	353.1465	1658	1851	2043	2236	2428	2621	2813	3006	3198		5-96
56	3391	3583	3776	3968	4161	4353	4546	4738	4931	5123	192	6-116
57	5316	5508	5700	5893	6085	6278	6470	6662	6855	7047		7-135
58	7239	7432	7624	7816	8009	8201	8393	8586	8778	8970		8-154
59	9162	9355	9547	9739	9931	0123	0316	0508	0700	0892		9-174
2260	354.1084	1277	1469	1661	1853	2045	2237	2429	2621	2814		192
61	3006	3198	3390	3582	3774	3966	4158	4350	4542	4734		1-19
62	4926	5118	5310	5502	5694	5886	6078	6270	6462	6654		2-38
63	6845	7037	7229	7421	7613	7805	7997	8189	8381	8572		3-58
64	8764	8956	9148	9340	9531	9723	9915	0107	0299	0490		4-77
65	355.0682	0874	1066	1257	1449	1641	1832	2024	2216	2407		5-96
66	2599	2791	2982	3174	3366	3557	3749	3940	4132	4324		6-115
67	4515	4707	4898	5090	5281	5473	5664	5856	6048	6239		7-134
68	6431	6622	6813	7005	7196	7388	7579	7771	7962	8154	191	8-154
69	8345	8536	8728	8919	9111	9302	9493	9685	9876	0067		9-173
2270	356.0259	0450	0641	0832	1024	1215	1406	1598	1789	1980		191
71	2171	2363	2554	2745	2936	3127	3319	3510	3701	3892		1-19
72	4083	4274	4465	4657	4848	5039	5230	5421	5612	5803		2-38
73	5994	6185	6376	6568	6759	6950	7141	7332	7523	7714		3-57
74	7905	8096	8287	8478	8668	8859	9050	9241	9432	9623		4-76
75	9814	0005	0196	0387	0578	0768	0959	1150	1341	1532		5-95
76	357.1723	1913	2104	2295	2486	2677	2867	3058	3249	3440		6-115
77	3630	3821	4012	4202	4393	4584	4775	4965	5156	5347		7-134
78	5537	5728	5918	6109	6300	6490	6681	6872	7062	7253		8-153
79	7443	7634	7824	8015	8205	8396	8586	8777	8967	9158		9-172
2280	9348	9539	9729	9920	0110	0301	0491	0682	0872	1062	190	190
81	358.1253	1443	1634	1824	2014	2205	2395	2585	2776	2966		1-19
82	3156	3347	3537	3727	3918	4108	4298	4488	4679	4869		2-38
83	5059	5249	5440	5630	5820	6010	6200	6391	6581	6771		3-57
84	6961	7151	7341	7531	7722	7912	8102	8292	8482	8672		4-76
85	8862	9052	9242	9432	9622	9812	0002	0192	0382	0572		5-95
86	359.0762	0952	1142	1332	1522	1712	1902	2092	2282	2472		6-114
87	2662	2852	3041	3231	3421	3611	3801	3991	4181	4370		7-133
88	4560	4750	4940	5130	5319	5509	5699	5889	6078	6268		8-152
89	6458	6648	6837	7027	7217	7406	7596	7786	7976	8165		9-171
2290	8355	8544	8734	8924	9113	9303	9493	9683	9872	0061		189
91	360.0251	0440	0630	0820	1009	1199	1388	1578	1767	1957		1-19
92	2146	2336	2525	2715	2904	3093	3283	3472	3662	3851	189	2-38
93	4041	4230	4419	4609	4798	4987	5177	5366	5555	5745		3-57
94	5934	6123	6313	6502	6691	6880	7070	7259	7448	7638		4-76
95	7827	8016	8205	8395	8584	8773	8962	9151	9341	9530		5-94
96	9719	9908	0097	0286	0475	0664	0854	1043	1232	1421		6-113
97	361.1610	1799	1988	2177	2366	2555	2744	2933	3122	3311		7-132
98	3500	3689	3878	4067	4256	4445	4634	4823	5012	5201		8-151
99	5390	5579	5767	5956	6145	6334	6523	6712	6901	7090		9-170
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2300	361.7278	7467	7656	7845	8034	8222	8411	8600	8789	8977	189	189
01	9166	9355	9544	9732	9921	0110	0298	0487	0676	0864	1	19
02	362.1053	1242	1430	1619	1808	1996	2185	2374	2562	2751	2	38
03	2939	3128	3316	3505	3694	3882	4071	4259	4448	4636	3	57
04	4825	5013	5202	5390	5579	5767	5956	6144	6332	6521	4	76
05	6709	6898	7086	7274	7463	7651	7840	8028	8216	8405	5	94
06	8593	8781	8970	9158	9346	9535	9723	9911	0099	0288	6	113
07	363.0476	0664	0852	1041	1229	1417	1605	1793	1982	2170	7	132
08	2358	2546	2734	2922	3111	3299	3487	3675	3863	4051	8	151
09	4239	4427	4615	4804	4992	5180	5368	5556	5744	5932	9	170
2310	6120	6308	6496	6684	6872	7060	7248	7436	7624	7811		188
11	7999	8187	8375	8563	8751	8939	9127	9315	9503	9690	1	19
12	9878	0066	0254	0442	0630	0817	1005	1193	1381	1569	2	38
13	364.1756	1944	2132	2320	2507	2695	2883	3070	3258	3446	3	56
14	3633	3821	4009	4197	4384	4572	4759	4947	5135	5322	4	75
15	5510	5698	5885	6073	6260	6448	6635	6823	7010	7198	5	94
16	7386	7573	7761	7948	8136	8323	8510	8698	8885	9073	6	113
17	9260	9448	9635	9823	0010	0197	0385	0572	0760	0947	7	132
18	365.1134	1322	1509	1696	1884	2071	2258	2446	2633	2820	8	150
19	3007	3195	3382	3569	3756	3944	4131	4318	4505	4693	9	169
2320	4880	5067	5254	5441	5629	5816	6003	6190	6377	6564		187
21	6751	6938	7126	7313	7500	7687	7874	8061	8248	8435	1	19
22	8622	8809	8996	9183	9370	9557	9744	9931	0118	0305	2	37
23	366.0492	0679	0866	1053	1240	1427	1614	1801	1987	2174	3	56
24	2361	2548	2735	2922	3109	3295	3482	3669	3856	4043	4	75
25	4230	4416	4603	4790	4977	5163	5350	5537	5724	5910	5	93
26	6097	6284	6470	6657	6844	7031	7217	7404	7590	7777	6	112
27	7964	8150	8337	8524	8710	8897	9083	9270	9457	9643	7	131
28	9830	0016	0203	0389	0576	0762	0949	1135	1322	1508	8	150
29	367.1695	1881	2068	2254	2441	2627	2814	3000	3186	3373	9	168
2330	3559	3746	3932	4118	4305	4491	4677	4864	5050	5236		186
31	5423	5609	5795	5982	6168	6354	6540	6727	6913	7099	1	19
32	7285	7472	7658	7844	8030	8216	8403	8589	8775	8961	2	37
33	9147	9333	9520	9706	9892	0078	0264	0450	0636	0822	3	56
34	368.1008	1195	1381	1567	1753	1939	2125	2311	2497	2683	4	74
35	2869	3055	3241	3427	3613	3799	3985	4171	4356	4542	5	93
36	4728	4914	5100	5286	5472	5658	5844	6030	6215	6401	6	112
37	6587	6773	6959	7145	7330	7516	7702	7888	8073	8259	7	130
38	8445	8631	8817	9002	9188	9374	9559	9745	9931	0116	8	149
39	369.0302	0488	0674	0859	1045	1230	1416	1602	1787	1973	9	167
2340	2159	2344	2530	2715	2901	3086	3272	3458	3643	3829		185
41	4014	4200	4385	4571	4756	4942	5127	5313	5498	5683	185	18
42	5869	6054	6240	6425	6611	6796	6981	7167	7352	7537	2	37
43	7723	7908	8094	8279	8464	8650	8835	9020	9205	9391	3	55
44	9576	9761	9947	0132	0317	0502	0688	0873	1058	1243	4	74
45	370.1428	1614	1799	1984	2169	2354	2539	2725	2910	3095	5	92
46	3280	3465	3650	3835	4020	4206	4391	4576	4761	4946	6	111
47	5131	5316	5501	5686	5871	6056	6241	6426	6611	6796	7	129
48	6981	7166	7351	7536	7721	7906	8091	8275	8460	8645	8	148
49	8830	9015	9200	9385	9570	9754	9939	0124	0309	0494	9	166
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

TO 101000:

N. 23500. L. 371.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2350	371.0679	0863	1048	1233	1418	1602	1787	1972	2157	2342	185	
51	2526	2711	2896	3080	3265	3450	3634	3819	4004	4188		
52	4373	4558	4742	4927	5112	5296	5481	5665	5850	6035		
53	6219	6404	6588	6773	6957	7142	7327	7511	7696	7880		
54	8065	8249	8434	8618	8802	8987	9171	9356	9540	9725	184	
55	9909	0093	0278	0462	0647	0831	1015	1200	1384	1568		
56	372.1753	1937	2121	2306	2490	2674	2859	3043	3227	3412		
57	3596	3780	3964	4149	4333	4517	4701	4885	5070	5254		
58	5438	5622	5806	5990	6175	6359	6543	6727	6911	7095		
59	7279	7463	7648	7832	8016	8200	8384	8568	8752	8936		
2360	9120	9304	9488	9672	9856	0040	0224	0408	0592	0776		184
61	373.0960	1144	1328	1512	1696	1879	2063	2247	2431	2615		1-18
62	2799	2983	3167	3350	3534	3718	3902	4086	4270	4453		2-37
63	4637	4821	5005	5189	5372	5556	5740	5924	6107	6291		3-55
64	6475	6658	6842	7026	7209	7393	7577	7760	7944	8128		4-74
65	8311	8495	8679	8862	9046	9229	9413	9597	9780	9964		5-92
66	374.0147	0331	0514	0698	0882	1065	1249	1432	1616	1799		6-110
67	1983	2166	2349	2533	2716	2900	3083	3267	3450	3634	183	7-129
68	3817	4000	4184	4367	4550	4734	4917	5101	5284	5467		8-147
69	5651	5834	6017	6200	6384	6567	6750	6934	7117	7300		9-166
2370	7483	7667	7850	8033	8216	8400	8583	8766	8949	9132		183
71	9316	9499	9682	9865	0048	0231	0414	0597	0781	0964		1-18
72	375.1147	1330	1513	1696	1879	2062	2245	2428	2611	2794		2-37
73	2977	3160	3343	3526	3709	3892	4075	4258	4441	4624		3-55
74	4807	4990	5173	5356	5539	5722	5905	6087	6270	6453		4-73
75	6636	6819	7002	7185	7367	7550	7733	7916	8099	8282		5-91
76	8464	8647	8830	9013	9195	9378	9561	9744	9926	0109		6-110
77	376.0292	0474	0657	0840	1023	1205	1388	1571	1753	1936		7-128
78	2118	2301	2484	2666	2849	3032	3214	3397	3579	3762		8-146
79	3944	4127	4309	4492	4675	4857	5040	5222	5405	5587		9-165
2380	5770	5952	6135	6317	6499	6682	6864	7047	7229	7412	182	182
81	7594	7776	7959	8141	8323	8506	8688	8871	9053	9235		1-18
82	9418	9600	9782	9964	0147	0329	0511	0694	0876	1058		2-36
83	377.1240	1423	1605	1787	1969	2152	2334	2516	2698	2880		3-55
84	3062	3245	3427	3609	3791	3973	4155	4337	4520	4702		4-73
85	4884	5066	5248	5430	5612	5794	5976	6158	6340	6522		5-91
86	6704	6886	7068	7250	7432	7614	7796	7978	8160	8342		6-109
87	8524	8706	8888	9070	9252	9434	9616	9798	9979	0161		7-127
88	378.0343	0525	0707	0889	1071	1252	1434	1616	1798	1980		8-146
89	2161	2343	2525	2707	2889	3070	3252	3434	3616	3797		9-164
2390	3979	4161	4342	4524	4706	4887	5069	5251	5432	5614		181
91	5796	5977	6159	6341	6522	6704	6885	7067	7249	7430		1-18
92	7612	7793	7975	8156	8338	8519	8701	8882	9064	9245		2-36
93	9427	9608	9790	9971	0153	0334	0516	0697	0879	1060	181	3-54
94	379.1241	1423	1604	1786	1967	2148	2330	2511	2692	2874		4-72
95	3055	3236	3418	3599	3780	3962	4143	4324	4506	4687		5-90
96	4868	5049	5231	5412	5593	5774	5955	6137	6318	6499		6-108
97	6680	6861	7043	7224	7405	7586	7767	7948	8130	8311		7-127
98	8492	8673	8854	9035	9216	9397	9578	9759	9940	0121		8-145
99	380.0302	0483	0664	0845	1026	1207	1388	1569	1750	1931		9-163
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 24000. L. 380.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2400	380.2112	2293	2474	2655	2836	3017	3198	3379	3560	3741	181	181
01	3922	4102	4283	4464	4645	4826	5007	5188	5368	5549	1	18
02	5736	5911	6092	6272	6453	6634	6815	6995	7176	7357	2	36
03	7538	7718	7899	8080	8261	8441	8622	8803	8983	9164	3	54
04	9345	9525	9706	9886	0067	0248	0428	0609	0790	0970	4	72
05	381.1151	1331	1512	1692	1873	2054	2234	2415	2595	2776	5	90
06	2956	3137	3317	3498	3678	3859	4039	4219	4400	4580	180	6-109
07	4761	4941	5122	5302	5482	5663	5843	6024	6204	6384	7	127
08	6565	6745	6925	7106	7286	7466	7647	7827	8007	8188	8	145
09	8368	8548	8728	8909	9089	9269	9449	9630	9810	9990	9	163
2410	382.0170	0351	0531	0711	0891	1071	1251	1432	1612	1792	180	
11	1972	2152	2332	2512	2692	2873	3053	3233	3413	3593	1	18
12	3773	3953	4133	4313	4493	4673	4853	5033	5213	5393	2	36
13	5573	5753	5933	6113	6293	6473	6653	6833	7013	7193	3	54
14	7373	7552	7732	7912	8092	8272	8452	8632	8812	8991	4	72
15	9171	9351	9531	9711	9891	0070	0250	0430	0610	0789	5	90
16	383.0969	1149	1329	1508	1688	1868	2048	2227	2407	2587	6	108
17	2766	2946	3126	3305	3485	3665	3845	4024	4204	4383	7	126
18	4563	4742	4922	5102	5281	5461	5640	5820	5999	6179	8	144
19	6359	6538	6718	6897	7077	7256	7436	7615	7795	7974	179	9-162
2420	8154	8333	8512	8692	8871	9051	9230	9410	9589	9768	179	
21	9948	0127	0307	0486	0665	0845	1024	1203	1383	1562	1	18
22	384.1741	1921	2100	2279	2458	2638	2817	2996	3176	3355	2	36
23	3534	3713	3893	4072	4251	4430	4609	4789	4968	5147	3	54
24	5326	5505	5684	5864	6043	6222	6401	6580	6759	6938	4	72
25	7117	7296	7475	7655	7834	8013	8192	8371	8550	8729	5	89
26	8908	9087	9266	9445	9624	9803	9982	0161	0340	0519	6	107
27	385.0698	0877	1056	1234	1413	1592	1771	1950	2129	2308	7	125
28	2487	2666	2844	3023	3202	3381	3560	3739	3917	4096	8	143
29	4275	4454	4633	4811	4990	5169	5348	5526	5705	5884	9	161
2430	6063	6241	6420	6599	6777	6956	7135	7314	7492	7671	178	
31	7850	8028	8207	8385	8564	8743	8921	9100	9278	9457	1	18
32	9636	9814	9993	0171	0350	0528	0707	0885	1064	1242	2	36
33	386.1421	1599	1778	1956	2135	2313	2492	2670	2849	3027	178	3-53
34	3206	3384	3562	3741	3919	4098	4276	4454	4633	4811	4	71
35	4990	5168	5346	5524	5703	5881	6060	6238	6416	6594	5	89
36	6773	6951	7129	7308	7486	7664	7842	8021	8199	8377	6	107
37	8555	8733	8912	9090	9268	9446	9624	9802	9981	0159	7	125
38	387.0337	0515	0693	0871	1049	1227	1406	1584	1762	1940	8	142
39	2118	2296	2474	2652	2830	3008	3186	3364	3542	3720	9	160
2440	3898	4076	4254	4432	4610	4788	4966	5144	5322	5500		
41	5678	5856	6034	6211	6389	6567	6745	6923	7101	7279		
42	7457	7634	7812	7990	8168	8346	8523	8701	8879	9057		
43	9235	9412	9590	9768	9946	0123	0301	0479	0657	0834		
44	388.1012	1190	1367	1545	1723	1900	2078	2256	2433	2611		
45	2789	2966	3144	3321	3499	3677	3854	4032	4209	4387		
46	4565	4742	4920	5097	5275	5452	5630	5807	5985	6162		
47	6340	6517	6695	6872	7049	7227	7404	7582	7759	7937	177	
48	8114	8291	8469	8646	8824	9001	9178	9356	9533	9710		
49	9888	0065	0242	0420	0597	0774	0952	1129	1306	1483		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 24500. L. 389

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2450	389.1661	1838	2015	2193	2370	2547	2724	2901	3079	3256	177	177
51	3433	3610	3787	3965	4142	4319	4496	4673	4850	5027		1-18
52	5205	5382	5559	5736	5913	6090	6267	6444	6621	6798		2-35
53	6975	7152	7329	7506	7684	7861	8038	8215	8392	8569		3-53
54	8746	8922	9099	9276	9453	9630	9807	9984	0161	0338		4-71
55	390.0515	0692	0869	1046	1222	1399	1576	1753	1930	2107		5-88
56	2284	2460	2637	2814	2991	3168	3344	3521	3698	3875		6-106
57	4052	4228	4405	4582	4758	4935	5112	5289	5465	5642		7-124
58	5819	5995	6172	6349	6525	6702	6879	7055	7232	7409		8-142
59	7585	7762	7938	8115	8292	8468	8645	8821	8998	9174		9-159
2460	9351	9528	9704	9881	0057	0234	0410	0587	0763	0940		176
61	391.1116	1293	1469	1645	1822	1998	2175	2351	2528	2704	176	1-18
62	2880	3057	3233	3410	3586	3762	3940	4115	4291	4468		2-35
63	4644	4820	4997	5173	5349	5526	5702	5878	6054	6231		3-53
64	6407	6583	6759	6936	7112	7288	7464	7641	7817	7993		4-70
65	8169	8345	8521	8698	8874	9050	9226	9402	9578	9755		5-88
66	9931	0107	0283	0459	0635	0811	0987	1163	1339	1515		6-106
67	392.1691	1867	2043	2219	2396	2572	2748	2924	3099	3275		7-123
68	3452	3627	3803	3979	4155	4331	4507	4683	4859	5035		8-141
69	5211	5387	5563	5739	5914	6090	6266	6442	6618	6794		9-158
2470	6970	7145	7321	7497	7673	7848	8024	8200	8376	8552		175
71	8727	8903	9079	9255	9430	9606	9782	9957	0133	0309		1-17
72	393.0485	0660	0836	1012	1187	1363	1539	1714	1890	2065		2-35
73	2241	2417	2592	2768	2943	3119	3295	3470	3646	3821		3-52
74	3997	4172	4348	4523	4699	4874	5050	5225	5401	5576		4-70
75	5752	5927	6103	6278	6454	6629	6805	6980	7155	7331	175	5-37
76	7506	7682	7857	8033	8208	8383	8559	8734	8909	9085		6-105
77	9260	9435	9611	9786	9961	0137	0312	0487	0662	0838		7-122
78	394.1013	1188	1363	1539	1714	1889	2064	2240	2415	2590		8-140
79	2765	2940	3116	3291	3466	3641	3816	3991	4167	4342		9-157
2480	4517	4692	4867	5042	5217	5392	5567	5742	5917	6093		
81	6268	6443	6618	6793	6968	7143	7318	7493	7668	7843		
82	8018	8193	8368	8543	8718	8893	9067	9242	9417	9592		
83	9767	9942	0117	0292	0467	0642	0816	0991	1166	1341		
84	395.1516	1691	1866	2040	2215	2390	2565	2740	2914	3089		
85	3264	3439	3613	3788	3963	4138	4312	4487	4662	4836		
86	5011	5186	5361	5535	5710	5885	6059	6234	6409	6583		
87	6758	6932	7107	7282	7456	7631	7805	7980	8155	8329		
88	8504	8678	8853	9027	9202	9376	9551	9725	9900	0074		
89	396.0249	0423	0598	0772	0947	1121	1296	1470	1645	1819	174	
2490	1993	2168	2342	2517	2691	2865	3040	3214	3389	3563		174
91	3737	3912	4086	4260	4435	4609	4783	4957	5132	5306		1-17
92	5480	5655	5829	6003	6177	6352	6526	6700	6874	7049		2-35
93	7223	7397	7571	7745	7920	8094	8268	8442	8616	8790		3-52
94	8964	9139	9313	9487	9661	9835	0009	0183	0357	0531		4-70
95	397.0705	0880	1054	1228	1402	1576	1750	1924	2098	2272		5-87
96	2446	2620	2794	2968	3142	3316	3490	3664	3838	4011		6-104
97	4185	4359	4533	4707	4881	5055	5229	5403	5577	5750		7-122
98	5924	6098	6272	6446	6620	6793	6967	7141	7315	7489		8-139
99	7663	7836	8010	8184	8358	8531	8705	8879	9053	9226		9-157
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2100	322.2193	2400	2607	2813	3020	3227	3434	3640	3847	4054	207	207
01	4261	4467	4674	4881	5087	5294	5501	5707	5914	6121		1-21
02	6327	6534	6740	6947	7153	7360	7567	7773	7980	8186		2-41
03	8393	8599	8806	9012	9219	9425	9632	9838	10045	10251	206	3-62
04	323.0457	0664	0870	1077	1283	1489	1696	1902	2108	2315		4-63
05	2521	2727	2934	3140	3346	3552	3759	3965	4171	4377		5-103
06	4584	4790	4996	5202	5408	5615	5821	6027	6233	6439		6-124
07	6645	6851	7058	7264	7470	7676	7882	8088	8294	8500		7-145
08	8706	8912	9118	9324	9530	9736	9942	0148	0354	0560		8-168
09	324.0766	0972	1178	1384	1589	1795	2001	2207	2413	2619		9-186
2110	2825	3030	3236	3442	3648	3854	4059	4265	4471	4677		206
11	4882	5088	5294	5499	5705	5911	6117	6322	6528	6734		1-21
12	6939	7145	7350	7556	7762	7967	8173	8378	8584	8789		2-41
13	8995	9200	9406	9612	9817	10023	10228	10433	10639	10844	205	3-62
14	325.1050	1255	1461	1666	1872	2077	2282	2488	2693	2898		4-82
15	3104	3309	3514	3720	3925	4130	4336	4541	4746	4951		5-103
16	5157	5362	5567	5772	5978	6183	6388	6593	6798	7003		6-124
17	7209	7414	7619	7824	8029	8234	8439	8644	8849	9055		7-144
18	9260	9465	9670	9875	10080	10285	10490	10695	10900	11105		8-165
19	326.1310	1515	1719	1924	2129	2334	2539	2744	2949	3154		9-185
2120	3359	3563	3768	3973	4178	4383	4588	4792	4997	5202		205
21	5407	5611	5816	6021	6226	6430	6635	6840	7044	7249		1-20
22	7454	7658	7863	8068	8272	8477	8682	8886	9091	9295		2-41
23	9500	9705	9909	0114	0318	0523	0727	0932	1136	1341		3-61
24	327.1545	1750	1954	2158	2363	2567	2772	2976	3181	3385	204	4-82
25	3589	3794	3998	4202	4407	4611	4815	5020	5224	5428		5-102
26	5633	5837	6041	6245	6450	6654	6858	7062	7267	7471		6-123
27	7675	7879	8083	8287	8492	8696	8900	9104	9308	9512		7-143
28	9716	9920	0124	0328	0533	0737	0940	1145	1349	1553		8-164
29	328.1757	1961	2165	2369	2572	2776	2980	3184	3388	3592		9-184
2130	3796	4000	4204	4408	4612	4815	5019	5223	5427	5631		204
31	5834	6038	6242	6446	6650	6853	7057	7261	7465	7668		1-20
32	7872	8076	8279	8483	8687	8890	9094	9298	9501	9705		2-41
33	9909	0112	0316	0519	0723	0926	1130	1334	1537	1741		3-61
34	329.1944	2148	2351	2555	2758	2962	3165	3369	3572	3775	203	4-82
35	3979	4182	4386	4589	4792	4996	5199	5402	5606	5809		5-102
36	6019	6216	6419	6622	6826	7029	7232	7435	7639	7842		6-122
37	8045	8248	8452	8655	8858	9061	9264	9468	9671	9874		7-143
38	330.0077	0280	0483	0686	0889	1093	1296	1499	1702	1905		8-163
39	2108	2311	2514	2717	2920	3123	3326	3529	3732	3935		9-184
2140	4138	4341	4544	4747	4949	5152	5355	5558	5761	5964		203
41	6167	6370	6572	6775	6978	7181	7384	7586	7789	7992		1-20
42	8195	8397	8600	8803	9006	9208	9411	9614	9816	10019		2-41
43	331.0222	0424	0627	0830	1032	1235	1437	1640	1843	2045		3-61
44	2248	2450	2653	2855	3058	3261	3463	3666	3868	4070		4-81
45	4273	4475	4678	4880	5083	5285	5488	5690	5892	6095	202	5-101
46	6297	6500	6702	6904	7107	7309	7511	7714	7916	8118		6-122
47	8320	8523	8725	8927	9129	9332	9534	9736	9938	10141		7-142
48	332.0343	0545	0747	0949	1151	1354	1556	1758	1960	2162		8-162
49	2364	2566	2768	2970	3172	3374	3577	3779	3981	4183		9-183
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 21500. L. 332

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
2150	332.4385	4587	4789	4991	5193	5394	5596	5798	6000	6202	202	202
51	6404	6606	6808	7010	7212	7414	7616	7817	8019	8221		1-20
52	8423	8624	8826	9028	9230	9432	9633	9835	0037	0239		2-40
53	333.0440	0642	0844	1045	1247	1449	1650	1852	2054	2255		3-60
54	2457	2659	2860	3062	3263	3465	3667	3868	4070	4271		4-80
55	4473	4674	4876	5077	5279	548	5682	5883	6085	6286	201	5-100
56	6488	6689	6890	7092	7293	7495	7696	7897	8099	8300		6-120
57	8501	8703	8904	9105	9307	9508	9709	9911	0112	0313		7-140
58	334.0514	0716	0917	1118	1319	1521	1722	1923	2124	2325		8-160
59	2526	2728	2929	3130	3331	3532	3733	3934	4135	4336		9-180
2160	4538	4739	494	5141	5342	5543	5744	5945	6146	6347		201
61	6548	6749	6950	7151	7351	7552	7753	7954	8155	8356		1-20
62	8557	8758	8959	9159	9360	9561	9762	9963	0164	0364		2-40
63	335.0565	0766	0967	1168	1368	1569	1770	1970	2171	2372		3-60
64	2573	2773	2974	3175	3375	3576	3777	3977	4178	4378		4-80
65	4579	4780	4980	5181	5381	5582	5782	5983	6183	6384		5-100
66	6585	6785	6986	7186	7386	7587	7787	7988	8188	8389	200	6-120
67	8589	8790	8990	9190	9391	9591	9791	9992	0192	0392		7-140
68	336.0593	0793	0993	1194	1394	1594	1795	1995	2195	2395		8-160
69	2596	2796	2996	3196	3396	3597	3797	3997	4197	4397		9-180
2170	4597	4797	4998	5198	5398	5598	5798	5998	6198	6398		200
71	6598	6798	6998	7198	7398	7598	7798	7998	8198	8398		1-20
72	8598	8798	8998	9198	9398	9598	9798	9998	0198	0397		2-40
73	337.0597	0797	0997	1197	1397	1596	1796	1996	2196	2396		3-60
74	2595	2795	2995	3195	3394	3594	3794	3994	4193	4392		4-80
75	4593	4794	4992	5192	5391	5591	5791	5992	6190	6389		5-100
76	6589	6788	6988	7188	7387	7587	7786	7986	8185	8385		6-120
77	8584	8784	8983	9183	9382	9582	9781	9981	0180	0379	199	7-140
78	338.0579	0778	0978	1177	1376	1576	1775	1974	2174	2373		8-160
79	2572	2772	2971	3170	3369	3569	3768	3967	4166	4366		9-180
2180	4565	4764	4963	5163	5362	5561	5760	5959	6158	6358		199
81	6557	6756	6955	7154	7353	7552	7751	7950	8149	8348		1-20
82	8547	8746	8946	9145	9344	9543	9742	9940	0139	0338		2-40
83	339.0537	0737	0935	1134	1333	1532	1731	1930	2129	2327		3-60
84	2526	2725	2924	3123	3322	3520	3719	3918	4117	4316		4-80
85	4514	4713	4912	5111	5309	5508	5707	5906	6104	6303		5-99
86	6502	6700	6899	7098	7296	7495	7693	7892	8091	8289		6-119
87	8488	8686	8885	9084	9282	9481	9679	9878	0076	0275		7-139
88	340.0473	0672	0870	1069	1267	1466	1664	1862	2061	2259	198	8-159
89	2458	2656	2854	3053	3251	3449	3648	3846	4045	4243		9-179
2190	4441	4639	4838	5036	5234	5433	5631	5829	6027	6226		198
91	6424	6622	6820	7018	7217	7415	7613	7811	8009	8207		1-20
92	8405	8604	8802	9000	9198	9396	9594	9792	9990	0188		2-40
93	341.0385	0584	0782	0980	1178	1376	1574	1772	1970	2168		3-60
94	2366	2564	2762	2960	3158	3356	3554	3752	3950	4147		4-79
95	4345	4543	4741	4939	5137	5334	5532	5730	5928	6126		5-99
96	6323	6521	6719	6917	7114	7312	7510	7707	7905	8103		6-119
97	8301	8498	8696	8894	9091	9289	9486	9684	9882	0079		7-139
98	342.0277	0474	0672	0870	1067	1265	1462	1660	1857	2055		8-158
99	2252	2450	2647	2845	3042	3240	3437	3635	3832	4029	197	9-178
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2200	342.4227	4424	4622	4819	5016	5214	5411	5608	5806	6003	197	197
01	6200	6398	6595	6792	6990	7187	7384	7581	7779	7976		1-20
02	8173	8370	8568	8765	8962	9159	9356	9554	9751	9948		2-39
03	343.0145	0342	0539	0736	0933	1131	1328	1525	1722	1919		3-59
04	2116	2313	2510	2707	2904	3101	3298	3495	3692	3889		4-79
05	4086	4283	4480	4677	4874	5071	5268	5464	5661	5858		5-98
06	6055	6252	6449	6646	6842	7039	7236	7433	7630	7827		6-118
07	8023	8220	8417	8614	8810	9007	9204	9401	9597	9794		7-138
08	9991	0187	0384	0581	0777	0974	1171	1367	1564	1761		8-158
09	344.1957	2154	2350	2547	2743	2940	3137	3333	3530	3726		9-177
2210	3923	4119	4316	4512	4709	4905	5102	5298	5495	5691	196	196
11	5887	6084	6280	6477	6673	6869	7066	7262	7459	7655		1-20
12	7851	8048	8244	8440	8636	8833	9029	9225	9422	9618		2-39
13	9814	0010	0207	0403	0599	0795	0991	1188	1384	1580		3-59
14	345.1776	1972	2168	2365	2561	2757	2953	3149	3345	3541		4-78
15	3737	3933	4129	4325	4522	4718	4914	5110	5306	5502		5-98
16	5698	5894	6090	6285	6481	6677	6873	7069	7265	7461		6-118
17	7657	7853	8049	8245	8440	8636	8832	9028	9224	9420		7-137
18	9615	9811	0007	0203	0399	0594	0790	0986	1182	1377		8-157
19	346.1573	1769	1964	2160	2356	2551	2747	2943	3138	3334		9-176
2220	3530	3725	3921	4117	4312	4508	4703	4899	5094	5290		195
21	5486	5681	5877	6072	6268	6463	6659	6854	7050	7245	195	1-19
22	7441	7636	7831	8027	8222	8418	8613	8808	9004	9199		2-39
23	9395	9590	9785	9981	0176	0371	0567	0762	0957	1153		3-58
24	347.1348	1543	1738	1934	2129	2324	2519	2715	2910	3105		4-78
25	3300	3495	3691	3886	4081	4276	4471	4666	4861	5056		5-97
26	5252	5447	5642	5837	6032	6227	6422	6617	6812	7007		6-117
27	7202	7397	7592	7787	7982	8177	8372	8567	8762	8957		7-136
28	9152	9347	9542	9737	9931	0126	0321	0516	0711	0906		8-156
29	348.1101	1296	1490	1685	1880	2075	2270	2464	2659	2854		9-175
2230	3049	3243	3438	3633	3828	4022	4217	4412	4606	4801		194
31	4996	5190	5385	5580	5774	5969	6164	6358	6553	6747		1-19
32	6942	7136	7331	7526	7720	7915	8109	8304	8498	8693		2-39
33	8887	9082	9276	9471	9665	9860	0054	0248	0443	0637	194	3-58
34	349.0832	1026	1220	1415	1609	1804	1998	2192	2387	2581		4-78
35	2775	2970	3164	3358	3552	3747	3941	4135	4330	4524		5-97
36	4718	4912	5106	5301	5495	5689	5883	6077	6272	6466		6-116
37	6660	6854	7048	7242	7436	7630	7825	8019	8213	8407		7-136
38	8601	8795	8989	9183	9377	9571	9765	9959	0153	0347		8-155
39	350.0541	0735	0929	1123	1317	1511	1705	1898	2092	2286		9-175
2240	2480	2674	2868	3062	3256	3449	3643	3837	4031	4225		193
41	4419	4612	4806	5000	5194	5387	5581	5775	5969	6162		1-19
42	6356	6550	6743	6937	7131	7325	7518	7712	7905	8099		2-39
43	8293	8486	8680	8874	9067	9261	9454	9648	9841	0035		3-58
44	351.0222	0422	0616	0809	1003	1196	1390	1583	1777	1970		4-78
45	2163	2357	2550	2744	2937	3131	3324	3517	3711	3904		5-97
46	4098	4291	4484	4678	4871	5064	5258	5451	5644	5837		6-116
47	6031	6224	6417	6611	6804	6997	7190	7383	7577	7770		7-136
48	7963	8156	8349	8543	8736	8929	9122	9315	9508	9701		8-155
49	9895	0088	0281	0474	0667	0860	1053	1246	1439	1632		9-175
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 22500. L. 352

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
2250	352.1825	2018	2211	2404	2597	2790	2983	3176	3369	3562	193	193
51	3755	3948	4141	4334	4527	4720	4912	5105	5298	5491	1	19
52	5684	5877	6070	6262	6455	6648	6841	7034	7226	7419	2	39
53	7612	7805	7997	8190	8383	8576	8768	8961	9154	9346	3	58
54	9539	9732	9924	0117	0310	0502	0695	0888	1080	1273	4	77
55	353.1465	1658	1851	2043	2236	2428	2621	2813	3006	3198	5	96
56	3391	3583	3776	3968	4161	4353	4546	4738	4931	5123	192	6-116
57	5316	5508	5700	5893	6085	6278	6470	6662	6855	7047	7	135
58	7239	7432	7624	7816	8009	8201	8393	8586	8778	8970	8	154
59	9162	9355	9547	9739	9931	0123	0316	0508	0700	0892	9	174
2260	354.1084	1277	1469	1661	1853	2045	2237	2429	2621	2814		192
61	3006	3198	3390	3582	3774	3966	4158	4350	4542	4734	1	19
62	4926	5118	5310	5502	5694	5886	6078	6270	6462	6654	2	38
63	6846	7037	7229	7421	7613	7805	7997	8189	8381	8572	3	58
64	8764	8956	9148	9340	9531	9723	9915	0107	0299	0490	4	77
65	355.0682	0874	1066	1257	1449	1641	1832	2024	2216	2407	5	96
66	2599	2791	2982	3174	3366	3557	3749	3940	4132	4324	6	115
67	4515	4707	4898	5090	5281	5473	5664	5856	6048	6239	7	134
68	6431	6622	6813	7005	7196	7388	7579	7771	7962	8154	191	8-154
69	8445	8636	8828	9019	9211	9402	9593	9785	9976	0067	9	173
2270	356.0259	0450	0641	0832	1024	1215	1406	1598	1789	1980		191
71	2171	2363	2554	2745	2936	3127	3319	3510	3701	3892	1	19
72	4083	4274	4466	4657	4848	5039	5230	5421	5612	5803	2	38
73	5994	6185	6376	6568	6759	6950	7141	7332	7523	7714	3	57
74	7905	8096	8287	8478	8668	8859	9050	9241	9432	9623	4	76
75	9814	0005	0196	0387	0578	0768	0959	1150	1341	1532	5	95
76	357.1723	1913	2104	2295	2486	2677	2867	3058	3249	3440	6	115
77	3630	3821	4012	4202	4393	4584	4775	4965	5156	5347	7	134
78	5537	5728	5918	6109	6300	6490	6681	6872	7062	7253	8	153
79	7443	7634	7824	8015	8205	8396	8586	8777	8967	9158	9	172
2280	9348	9539	9729	9920	0110	0301	0491	0682	0872	1062	190	190
81	358.1253	1443	1634	1824	2014	2205	2395	2585	2776	2966	1	19
82	3156	3347	3537	3727	3918	4108	4298	4488	4679	4869	2	38
83	5059	5249	5440	5630	5820	6010	6200	6391	6581	6771	3	57
84	6961	7151	7341	7531	7722	7912	8102	8292	8482	8672	4	76
85	8862	9052	9242	9432	9622	9812	0002	0192	0382	0572	5	95
86	359.0762	0952	1142	1332	1522	1712	1902	2092	2282	2472	6	114
87	2662	2852	3041	3231	3421	3611	3801	3991	4181	4370	7	133
88	4560	4750	4940	5130	5319	5509	5699	5889	6078	6268	8	152
89	6458	6648	6837	7027	7217	7406	7596	7786	7976	8165	9	171
2290	8355	8544	8734	8924	9113	9303	9493	9682	9872	0061		189
91	360.0251	0440	0630	0820	1009	1199	1388	1578	1767	1957	1	19
92	2146	2336	2525	2715	2904	3093	3283	3472	3662	3851	189	2-38
93	4041	4230	4419	4609	4798	4987	5177	5366	5555	5745	3	57
94	5934	6123	6313	6502	6691	6880	7070	7259	7448	7638	4	76
95	7827	8016	8205	8395	8584	8773	8962	9151	9341	9530	5	94
96	9719	9908	0097	0286	0475	0664	0854	1043	1232	1421	6	113
97	361.1610	1799	1988	2177	2366	2555	2744	2933	3122	3311	7	132
98	3500	3689	3878	4067	4256	4445	4634	4823	5012	5201	8	151
99	5390	5579	5767	5956	6145	6334	6523	6712	6901	7090	9	170
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2300	361.7278	7467	7656	7845	8034	8222	8411	8600	8785	8977	189	189
01	9166	9355	9544	9732	9921	0110	0298	0487	0670	0864	1	19
02	362.1053	1242	1430	1619	1808	1996	2185	2374	2562	2751	2	38
03	2939	3128	3316	3505	3694	3882	4071	4259	4448	4636	3	57
04	4825	5013	5202	5390	5579	5767	5956	6144	6332	6521	188	4-76
05	6709	6898	7086	7274	7463	7651	7840	8028	8216	8405	5	94
06	8593	8781	8970	9158	9346	9535	9723	9911	0099	0288	6	113
07	363.0476	0664	0852	1041	1229	1417	1605	1793	1982	2170	7	132
08	2358	2546	2734	2922	3111	3299	3487	3675	3863	4051	8	151
09	4239	4427	4615	4804	4992	5180	5368	5556	5744	5932	9	170
2310	6120	6308	6496	6684	6872	7060	7248	7436	7624	7811		188
11	7999	8187	8375	8563	8751	8939	9127	9315	9503	9690	1	19
12	9878	0066	0254	0442	0630	0817	1005	1193	1381	1569	2	38
13	364.1756	1944	2132	2320	2507	2695	2883	3070	3258	3446	3	56
14	3633	3821	4009	4197	4384	4572	4759	4947	5135	5322	4	75
15	5510	5698	5885	6073	6260	6448	6635	6823	7010	7198	5	94
16	7386	7573	7761	7948	8136	8323	8510	8698	8885	9073	187	6-113
17	9260	9448	9635	9823	0010	0197	0385	0572	0760	0947	7	132
18	365.1134	1322	1509	1696	1884	2071	2258	2446	2633	2820	8	150
19	3007	3195	3382	3569	3756	3944	4131	4318	4505	4693	9	169
2320	4880	5067	5254	5441	5629	5816	6003	6190	6377	6564		187
21	6751	6938	7126	7313	7500	7687	7874	8061	8248	8435	1	19
22	8622	8809	8996	9183	9370	9557	9744	9931	0118	0305	2	37
23	366.0492	0679	0866	1053	1240	1427	1614	1801	1987	2174	3	56
24	2361	2548	2735	2922	3109	3295	3482	3669	3856	4043	4	75
25	4230	4416	4603	4790	4977	5163	5350	5537	5724	5910	5	93
26	6097	6284	6470	6657	6844	7031	7217	7404	7590	7777	6	112
27	7964	8150	8337	8524	8710	8897	9083	9270	9457	9643	7	131
28	9830	0016	0203	0389	0576	0762	0949	1135	1322	1508	8	150
29	367.1695	1881	2068	2254	2441	2627	2814	3000	3186	3373	186	9-168
2330	3559	3746	3932	4118	4305	4491	4677	4864	5050	5236		186
31	5423	5609	5795	5982	6168	6354	6540	6727	6913	7099	1	19
32	7285	7472	7658	7844	8030	8216	8403	8589	8775	8961	2	37
33	9147	9333	9520	9706	9892	0078	0264	0450	0636	0822	3	56
34	368.1008	1195	1381	1567	1753	1939	2125	2311	2497	2683	4	74
35	2869	3055	3241	3427	3613	3799	3985	4171	4356	4542	5	93
36	4728	4914	5100	5286	5472	5658	5844	6030	6215	6401	6	112
37	6587	6773	6959	7145	7330	7516	7702	7888	8073	8259	7	130
38	8445	8631	8817	9002	9188	9374	9559	9745	9931	0116	8	149
39	369.0302	0488	0674	0859	1045	1230	1416	1602	1787	1973	9	167
2340	2159	2344	2530	2715	2901	3086	3272	3458	3643	3829		185
41	4014	4200	4385	4571	4756	4942	5127	5313	5498	5683	185	1-18
42	5869	6054	6240	6425	6611	6796	6981	7167	7352	7537	2	37
43	7723	7908	8094	8279	8464	8650	8835	9020	9205	9391	3	55
44	9576	9761	9947	0132	0317	0502	0688	0873	1058	1243	4	74
45	370.1428	1614	1799	1984	2169	2354	2539	2725	2910	3095	5	92
46	3280	3465	3650	3835	4020	4206	4391	4576	4761	4946	6	111
47	5131	5316	5501	5686	5871	6056	6241	6426	6611	6796	7	129
48	6981	7166	7351	7536	7721	7906	8091	8275	8460	8645	8	148
49	8830	9015	9200	9385	9570	9754	9939	0124	0309	0494	9	166
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

CO 101000:

N. 23500. L. 371.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2350	371.0679	0863	1048	1233	1418	1602	1787	1972	2157	2342	185	
51	2520	2711	2896	3080	3265	3450	3634	3819	4004	4188		
52	4373	4558	4742	4927	5112	5296	5481	5665	5850	6035		
53	6219	6404	6588	6773	6957	7142	7327	7511	7696	7880		
54	8065	8249	8434	8618	8802	8987	9171	9356	9540	9725	184	
55	9909	0093	0278	0462	0647	0831	1015	1200	1384	1568		
56	372.1753	1937	2121	2306	2490	2674	2859	3043	3227	3412		
57	3596	3780	3964	4149	4333	4517	4701	4885	5070	5254		
58	5438	5622	5806	5990	6175	6359	6543	6727	6911	7095		
59	7279	7463	7648	7832	8016	8200	8384	8568	8752	8936		
2360	9120	9304	9488	9672	9856	0040	0224	0408	0592	0776	184	
61	373.0960	1144	1328	1512	1696	1879	2063	2247	2431	2615	1-18	
62	2799	2983	3167	3350	3534	3718	3902	4086	4270	4453	2-37	
63	4637	4821	5005	5189	5372	5556	5740	5924	6107	6291	3-55	
64	6475	6658	6842	7026	7209	7393	7577	7760	7944	8128	4-74	
65	8311	8495	8679	8862	9046	9229	9413	9597	9780	9964	5-92	
66	374.0147	0331	0514	0698	0882	1065	1249	1432	1616	1799	6-110	
67	1983	2166	2349	2533	2716	2900	3083	3267	3450	3634	7-129	
68	3817	4000	4184	4367	4550	4734	4917	5101	5284	5467	8-147	
69	5651	5834	6017	6200	6384	6567	6750	6934	7117	7300	9-166	
2370	7483	7667	7850	8033	8216	8400	8583	8766	8949	9132	182	
71	9316	9499	9682	9865	0048	0231	0414	0597	0781	0964	1-18	
72	375.1147	1330	1513	1696	1879	2062	2245	2428	2611	2794	2-37	
73	2977	3160	3343	3526	3709	3892	4075	4258	4441	4624	3-55	
74	4807	4990	5173	5356	5539	5722	5905	6087	6270	6453	4-73	
75	6636	6819	7002	7185	7367	7550	7733	7916	8099	8282	5-91	
76	8464	8647	8830	9013	9195	9378	9561	9744	9926	0109	6-110	
77	376.0292	0474	0657	0840	1023	1205	1388	1571	1753	1936	7-128	
78	2118	2301	2484	2666	2849	3032	3214	3397	3579	3762	8-146	
79	3944	4127	4309	4492	4675	4857	5040	5222	5405	5587	9-165	
2380	5770	5952	6135	6317	6499	6682	6864	7047	7229	7412	182	
81	7594	7776	7959	8141	8323	8506	8688	8871	9053	9235	1-18	
82	9418	9600	9782	9964	0147	0329	0511	0694	0876	1058	2-36	
83	377.1240	1423	1605	1787	1969	2152	2334	2516	2698	2880	3-55	
84	3062	3245	3427	3609	3791	3973	4155	4337	4520	4702	4-73	
85	4884	5066	5248	5430	5612	5794	5976	6158	6340	6522	5-91	
86	6704	6886	7068	7250	7432	7614	7796	7978	8160	8342	6-109	
87	8524	8706	8888	9070	9252	9434	9616	9798	9979	0161	7-127	
88	378.0343	0525	0707	0889	1071	1252	1434	1616	1798	1980	8-146	
89	2161	2343	2525	2707	2889	3070	3252	3434	3616	3797	9-164	
2390	3979	4161	4342	4524	4706	4887	5069	5251	5432	5614	181	
91	5796	5977	6159	6341	6522	6704	6885	7067	7249	7430	1-18	
92	7612	7793	7975	8156	8338	8519	8701	8882	9064	9245	2-36	
93	9427	9608	9790	9971	0153	0334	0516	0697	0879	1060	3-54	
94	379.1241	1423	1604	1786	1967	2148	2330	2511	2692	2874	4-72	
95	3055	3236	3418	3599	3780	3962	4143	4324	4506	4687	5-90	
96	4868	5049	5231	5412	5593	5774	5956	6137	6318	6499	6-109	
97	6680	6861	7043	7224	7405	7586	7767	7948	8130	8311	7-127	
98	8492	8673	8854	9035	9216	9397	9578	9759	9940	0121	8-145	
99	380.0302	0483	0664	0845	1026	1207	1388	1569	1750	1931	9-163	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 24000. L. 380.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2400	380.2112	2293	2474	2655	2836	3017	3198	3379	3560	3741	181	181
01	3922	4102	4283	4464	4645	4826	5007	5188	5368	5549		1-18
02	5736	5911	6092	6272	6453	6634	6815	6995	7176	7357		2-36
03	7538	7718	7899	8080	8261	8441	8622	8803	8983	9164		3-54
04	9345	9525	9706	9886	10067	10248	10428	10609	10790	10970		4-72
05	381.1151	1331	1512	1692	1873	2054	2234	2415	2595	2776		5-90
06	2956	3137	3317	3498	3678	3859	4039	4219	4400	4580	180	6-109
07	4761	4941	5122	5302	5482	5663	5843	6024	6204	6384		7-127
08	6565	6745	6925	7106	7286	7466	7647	7827	8007	8188		8-145
09	8368	8548	8728	8909	9089	9269	9449	9630	9810	9990		9-163
2410	382.0170	0351	0531	0711	0891	1071	1251	1432	1612	1792		180
11	1972	2152	2332	2512	2692	2873	3053	3233	3413	3593		1-118
12	3773	3953	4133	4313	4493	4673	4853	5033	5213	5393		2-36
13	5573	5753	5933	6113	6293	6473	6653	6833	7013	7193		3-54
14	7373	7552	7732	7912	8092	8272	8452	8632	8812	8991		4-72
15	9171	9351	9531	9711	9891	10070	10250	10430	10610	10789		5-90
16	383.0969	1149	1329	1508	1688	1868	2048	2227	2407	2587		6-108
17	2766	2946	3126	3305	3485	3665	3845	4024	4204	4383		7-126
18	4563	4742	4922	5102	5281	5461	5640	5820	5999	6179		8-144
19	6359	6538	6718	6897	7077	7256	7436	7615	7795	7974	179	9-162
2420	8154	8333	8512	8692	8871	9051	9230	9410	9589	9768		179
21	9948	0127	0307	0486	0665	0845	1024	1203	1383	1562		1-18
22	384.1741	1921	2100	2279	2458	2638	2817	2996	3176	3355		2-36
23	3534	3713	3893	4072	4251	4430	4609	4789	4968	5147		3-54
24	5326	5505	5684	5864	6043	6222	6401	6580	6759	6938		4-72
25	7117	7296	7475	7655	7834	8013	8192	8371	8550	8729		5-89
26	8908	9087	9266	9445	9624	9803	9982	10161	10340	10519		6-107
27	385.0698	0877	1056	1234	1413	1592	1771	1950	2129	2308		7-125
28	2487	2666	2844	3023	3202	3381	3560	3739	3917	4096		8-143
29	4275	4454	4633	4811	4990	5169	5348	5526	5705	5884		9-161
2430	6063	6241	6420	6599	6777	6956	7135	7314	7492	7671		178
31	7850	8028	8207	8385	8564	8743	8921	9100	9278	9457		1-18
32	9636	9814	9993	10171	10350	10528	10707	10885	11064	11242		2-36
33	386.1421	1599	1778	1956	2135	2313	2492	2670	2849	3027		3-53
34	3206	3384	3562	3741	3919	4098	4276	4454	4633	4811		4-71
35	4990	5168	5346	5524	5703	5881	6060	6238	6416	6594		5-89
36	6773	6951	7129	7308	7486	7664	7842	8021	8199	8377		6-107
37	8555	8733	8912	9090	9268	9446	9624	9802	9981	10159		7-125
38	387.0337	0515	0693	0871	1049	1227	1406	1584	1762	1940		8-142
39	2118	2296	2474	2652	2830	3008	3186	3364	3542	3720		9-160
2440	3898	4076	4254	4432	4610	4788	4966	5144	5322	5500		
41	5678	5856	6034	6211	6389	6567	6745	6923	7101	7279		
42	7457	7634	7812	7990	8168	8346	8523	8701	8879	9057		
43	9235	9412	9590	9768	9946	10123	10301	10479	10657	10834		
44	388.1012	1190	1367	1545	1723	1900	2078	2256	2433	2611		
45	2789	2966	3144	3321	3499	3677	3854	4032	4209	4387		
46	4565	4742	4920	5097	5275	5452	5630	5807	5985	6162		
47	6340	6517	6695	6872	7049	7227	7404	7582	7759	7937	177	
48	8114	8291	8469	8646	8824	9001	9178	9356	9533	9710		
49	9888	10065	10242	10420	10597	10774	10952	11129	11306	11483		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 24500. L. 389

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2450	389.1661	1838	2015	2193	2370	2547	2724	2901	3079	3256	177	177
51	3433	3610	3787	3965	4142	4319	4496	4673	4850	5027		1-18
52	5205	5382	5559	5736	5913	6090	6267	6444	6621	6798		2-35
53	6975	7152	7329	7506	7684	7861	8038	8215	8392	8569		3-52
54	8746	8922	9099	9276	9453	9630	9807	9984	0161	0338		4-71
55	390.0515	0692	0869	1046	1222	1399	1576	1753	1930	2107		5-88
56	2284	2460	2637	2814	2991	3168	3344	3521	3698	3875		6-106
57	4052	4228	4405	4582	4758	4935	5112	5289	5465	5642		7-124
58	5819	5995	6172	6349	6525	6702	6879	7055	7232	7409		8-142
59	7585	7762	7938	8115	8292	8468	8645	8821	8998	9174		9-159
2460	9351	9528	9704	9881	0057	0234	0410	0587	0763	0940		176
61	391.1116	1293	1469	1645	1822	1998	2175	2351	2528	2704	176	1-18
62	2880	3057	3233	3410	3586	3762	3940	4115	4291	4468		2-35
63	4644	4820	4997	5173	5349	5526	5702	5878	6054	6231		3-52
64	6407	6583	6759	6936	7112	7288	7464	7641	7817	7993		4-70
65	8169	8345	8521	8698	8874	9050	9226	9402	9578	9755		5-88
66	9931	0107	0283	0459	0635	0811	0987	1163	1339	1515		6-106
67	392.1691	1867	2043	2219	2396	2572	2748	2924	3099	3275		7-123
68	3452	3627	3803	3979	4155	4331	4507	4683	4859	5035		8-141
69	5211	5387	5563	5739	5914	6090	6266	6442	6618	6794		9-158
2470	6970	7145	7321	7497	7673	7848	8024	8200	8376	8552		175
71	8727	8903	9079	9255	9430	9606	9782	9957	0133	0309		1-17
72	393.0485	0660	0836	1012	1187	1363	1539	1714	1890	2065		2-35
73	2241	2417	2592	2768	2943	3119	3295	3470	3646	3821		3-52
74	3997	4172	4348	4523	4699	4874	5050	5225	5401	5576		4-70
75	5752	5927	6103	6278	6454	6629	6805	6980	7155	7331	175	5-87
76	7506	7682	7857	8033	8208	8383	8559	8734	8909	9085		6-105
77	9260	9435	9611	9786	9961	0137	0312	0487	0662	0838		7-122
78	394.1013	1188	1363	1539	1714	1889	2064	2240	2415	2590		8-140
79	2765	2940	3116	3291	3466	3641	3816	3991	4167	4342		9-157
2480	4517	4692	4867	5042	5217	5392	5567	5742	5917	6093		
81	6268	6443	6618	6793	6968	7143	7318	7493	7668	7843		
82	8018	8193	8368	8543	8718	8893	9067	9242	9417	9592		
83	9767	9942	0117	0292	0467	0642	0816	0991	1166	1341		
84	395.1516	1691	1866	2040	2215	2390	2565	2740	2914	3089		
85	3264	3439	3613	3788	3963	4138	4312	4487	4662	4836		
86	5011	5186	5361	5535	5710	5885	6059	6234	6409	6583		
87	6758	6932	7107	7282	7456	7631	7805	7980	8155	8329		
88	8504	8678	8853	9027	9202	9376	9551	9725	9900	0074		
89	396.0249	0423	0598	0772	0947	1121	1296	1470	1645	1819	174	
2490	1993	2168	2342	2517	2691	2865	3040	3214	3389	3563		174
91	3737	3912	4086	4260	4435	4609	4783	4957	5132	5306		1-17
92	5480	5655	5829	6003	6177	6352	6526	6700	6874	7049		2-35
93	7223	7397	7571	7745	7920	8094	8268	8442	8616	8790		3-52
94	8964	9139	9313	9487	9661	9835	0009	0183	0357	0531		4-70
95	397.0705	0880	1054	1228	1402	1576	1750	1924	2098	2272		5-87
96	2446	2620	2794	2968	3142	3316	3490	3664	3838	4011		6-104
97	4185	4359	4533	4707	4881	5055	5229	5403	5577	5750		7-122
98	5924	6098	6272	6446	6620	6793	6967	7141	7315	7489		8-139
99	7663	7836	8010	8184	8358	8531	8705	8879	9053	9226		9-157
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 25000. L. 397.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2500	397.9400	9574	9747	9921	0095	0269	0442	0616	0790	0963	174	174
01	398.1137	1311	1484	1658	1831	2005	2179	2352	2526	2699		1-17
02	2873	3047	3220	3394	3567	3741	3914	4088	4261	4435		2-35
03	4608	4782	4955	5129	5302	5476	5649	5823	5996	6170	173	3-52
04	6343	6517	6690	6863	7037	7210	7384	7557	7730	7904		4-70
05	8077	8251	8424	8597	8771	8944	9117	9291	9464	9637		5-87
06	9811	9984	0157	0330	0504	0677	0850	1024	1197	1370		6-104
07	399.1543	1717	1890	2063	2236	2409	2583	2756	2929	3102		7-122
08	3275	3448	3622	3795	3968	4141	4314	4487	4660	4833		8-139
09	5007	5180	5353	5526	5699	5872	6045	6218	6391	6564		9-157
2510	6737	6910	7083	7256	7429	7602	7775	7948	8121	8294		173
11	8467	8640	8813	8986	9159	9332	9505	9678	9850	0023		1-17
12	400.0196	0369	0542	0715	0888	1061	1233	1406	1579	1752		2-35
13	1925	2098	2270	2443	2616	2789	2962	3134	3307	3480		3-52
14	3653	3825	3998	4171	4344	4516	4689	4862	5034	5207		4-69
15	5380	5552	5725	5898	6070	6243	6416	6588	6761	6934		5-86
16	7106	7279	7451	7624	7797	7969	8142	8314	8487	8660		6-104
17	8832	9005	9177	9350	9522	9695	9867	0040	0212	0385		7-121
18	401.0557	0730	0902	1075	1247	1419	1592	1764	1937	2109	172	8-138
19	2282	2454	2626	2799	2971	3144	3316	3488	3661	3833		9-156
2520	4005	4178	4350	4522	4695	4867	5039	5212	5384	5556		172
21	5728	5901	6073	6245	6417	6590	6762	6934	7106	7279		1-17
22	7451	7623	7795	7967	8140	8312	8484	8656	8828	9000		2-34
23	9173	9345	9517	9689	9861	0033	0205	0377	0549	0721		3-52
24	402.0893	1066	1238	1410	1582	1754	1926	2098	2270	2442		4-69
25	2614	2786	2958	3130	3302	3474	3646	3818	3990	4162		5-86
26	4333	4505	4677	4849	5021	5193	5365	5537	5709	5881		6-103
27	6052	6224	6396	6568	6740	6912	7083	7255	7427	7599		7-120
28	7771	7942	8114	8286	8458	8629	8801	8973	9145	9317		8-138
29	9485	9660	9832	0003	0175	0347	0518	0690	0862	1034		9-155
2530	403.1205	1377	1548	1720	1892	2063	2235	2407	2578	2750		171
31	2921	3093	3265	3436	3608	3779	3951	4122	4294	4465		1-17
32	4637	4808	4980	5152	5323	5494	5666	5837	6009	6180	171	2-34
33	6352	6523	6695	6866	7038	7209	7380	7552	7723	7895		3-51
34	8066	8237	8409	8580	8752	8923	9094	9266	9437	9608		4-68
35	9780	9951	0122	0294	0465	0636	0807	0979	1150	1321		5-85
36	404.1492	1664	1835	2006	2177	2349	2520	2691	2862	3033		6-103
37	3205	3376	3547	3718	3889	4060	4232	4403	4574	4745		7-120
38	4916	5087	5258	5429	5601	5772	5943	6114	6285	6456		8-137
39	6627	6798	6969	7140	7311	7482	7653	7824	7995	8166		9-154
2540	8337	8508	8679	8850	9021	9192	9363	9534	9705	9876		
41	405.0047	0218	0388	0559	0730	0901	1072	1243	1414	1585		
42	1755	1926	2097	2268	2439	2610	2780	2951	3122	3293		
43	3464	3634	3805	3976	4147	4317	4488	4659	4830	5000		
44	5171	5342	5512	5683	5854	6025	6195	6366	6537	6707		
45	6878	7048	7219	7390	7560	7731	7902	8072	8243	8413		
46	8584	8755	8925	9096	9266	9437	9607	9778	9948	0119		
47	406.0289	0460	0630	0801	0971	1142	1312	1483	1653	1824	170	
48	1594	2165	2335	2505	2676	2846	3017	3187	3358	3528		
49	3698	3869	4039	4209	4380	4550	4720	4891	5061	5232		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
25501	406.5402	5572	5742	5913	6083	6253	6424	6594	6764	6934	170	171
51	7105	7275	7445	7615	7785	7956	8126	8296	8466	8636	1—1	
52	8807	8977	9147	9317	9487	9657	9828	9998	016	0338	2—3	
53	407.0508	0678	0848	1018	1188	1359	1529	1699	1869	2039	—5	
54	2209	2379	2549	2719	2889	3059	3229	3399	3569	3739	4—6	
55	3909	4079	4249	4419	4589	4759	4929	5099	5269	5439	5—8	
56	5608	5778	5948	6118	6288	6458	6628	6798	6968	7137	6—10	
57	7307	7477	7647	7817	7987	8156	8326	8496	8666	8836	7—11	
58	9005	9175	9345	9515	9684	9854	0024	0194	0363	0533	8—13	
59	408.0703	0873	1042	1212	1382	1551	172	1891	2060	2230	9—15	
2560	2400	2569	2739	2909	3078	3248	3417	3587	3757	3926	16	
61	4096	4265	4435	4604	4774	4944	5113	5283	5452	5622	1—1	
62	5791	5961	6130	6300	6469	6639	6808	6978	7147	7317	169	
63	7486	7655	7825	7994	8164	8333	8503	8672	8841	9011	3—5	
64	9180	9350	9519	9688	9858	0027	0196	0366	0535	0704	4—6	
65	409.0874	1043	1212	1382	1551	1720	1889	2059	2228	2397	5—8	
66	2567	2736	2905	3074	3243	3413	3582	3751	3920	4089	6—10	
67	4259	4428	4597	4766	4935	5104	5274	5443	5612	5781	7—11	
68	5950	6119	6288	6457	6627	6796	6965	7134	7303	7472	8—13	
69	7641	7810	7979	8148	8317	8486	8655	8824	8993	9162	9—15	
2570	9331	9500	9669	9838	0007	0176	0345	0514	0683	0852	16	
71	410.1021	1190	1359	1527	1696	1865	2034	2203	2372	2541	1—1	
72	2710	2878	3047	3216	3385	3554	3723	3891	4060	4229	2—3	
73	4398	4567	4735	4904	5073	5242	5410	5579	5748	5917	3—5	
74	6085	6254	6423	6592	6760	6929	7098	7266	7435	7604	4—6	
75	7772	7941	8110	8278	8447	8615	8784	8953	9121	9290	5—8	
76	9459	9627	9796	9964	0133	0301	0470	0639	0807	0976	6—10	
77	411.1144	1313	1481	1650	1818	1987	2155	2324	2492	2661	168	
78	2829	2998	3166	3334	3503	3671	3840	4008	4177	4345	7—11	
79	4513	4682	4850	5019	5187	5355	5524	5692	5860	6029	8—13	
2580	6197	6365	6534	6702	6870	7039	7207	7375	7543	7712	9—15	
81	7880	8048	8217	8385	8553	8721	8889	9058	9226	9394	16	
82	9562	9731	9899	0067	0235	0403	0571	0740	0908	1076	1—1	
83	412.1244	1412	1580	1748	1917	2085	2253	2421	2589	2757	2—3	
84	2925	3093	3261	3429	3597	3765	3933	4101	4269	4437	3—5	
85	4605	4773	4941	5109	5277	5445	5613	5781	5949	6117	4—6	
86	6285	6453	6621	6789	6957	7125	7293	7461	7628	7796	5—8	
87	7964	8132	8300	8468	8636	8804	8971	9139	9307	9475	6—10	
88	9643	9810	9978	0146	0314	0482	0649	0817	0985	1153	7—11	
89	413.1320	1488	1656	1824	1991	2159	2327	2495	2662	2830	8—13	
2590	2998	3165	3333	3501	3668	3836	4004	4171	4339	4506	9—15	
91	4674	4842	5009	5177	5344	5512	5680	5847	6015	6182	16	
92	6350	6517	6685	6853	7020	7188	7355	7523	7690	7858	1—1	
93	8025	8193	8360	8528	8695	8862	9030	9197	9365	9532	2—3	
94	9700	9867	0035	0202	0369	0537	0704	0871	1039	1206	3—5	
95	414.1374	1541	1708	1876	2043	2210	2378	2545	2712	2880	4—6	
96	3047	3214	3381	3549	3716	3883	4050	4218	4385	4552	5—8	
97	4719	4887	5054	5221	5388	5556	5723	5890	6057	6224	6—10	
98	6391	6559	6726	6893	7060	7227	7394	7561	7729	7896	7—11	
99	8063	8230	8397	8564	8731	8898	9065	9232	9399	9566	8—13	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 26000. L. 414.

Logarithms.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2600	414.9733	9900	0067	0235	0402	0569	0736	0903	1070	1236	167	167
01	415.1404	1570	1737	1904	2071	2238	2405	2572	2735	2906		1-17
02		3073	3240	3407	3574	3740	3907	4074	4241	4408		2-33
03		4742	4908	5075	5242	5409	5576	5743	5909	6076		3-50
04		6410	6577	6743	6910	7077	7244	7410	7577	7744		4-67
05		8077	8244	8411	8577	8744	8911	9077	9244	9411		5-83
06		9744	9911	0077	0244	0411	0577	0744	0910	1077		6-100
07	416.1410	1577	1743	1910	2077	2243	2410	2576	2743	2909		7-117
08		3076	3242	3409	3575	3742	3908	4075	4241	4408	166	8-134
09		4741	4907	5074	5240	5407	5573	5739	5906	6072	6239	9-150
2610		6405	6571	6738	6904	7071	7237	7403	7570	7736	7902	166
11		8069	8235	8401	8568	8734	8900	9067	9233	9399	9565	1-17
12		9732	9898	0064	0230	0397	0563	0729	0895	1062	1228	2-33
13	417.1394	1560	1726	1893	2059	2225	2391	2557	2723	2890		3-50
14		3056	3222	3388	3554	3720	3886	4053	4219	4385	4551	4-66
15		4717	4883	5049	5215	5381	5547	5713	5879	6045	6211	5-33
16		6377	6543	6709	6875	7041	7207	7373	7539	7705	7871	6-100
17		8037	8203	8369	8535	8701	8867	9033	9199	9365	9530	7-116
18		9695	9862	0028	0194	0360	0526	0692	0857	1023	1189	8-133
19	418.1355	1521	1687	1852	2018	2184	2350	2516	2681	2847		9-149
2620		3013	3179	3344	3510	3676	3842	4007	4173	4339	4504	105
21		4670	4836	5002	5167	5333	5499	5664	5830	5996	6161	1-16
22		6327	6492	6658	6824	6989	7155	7321	7486	7652	7817	2-33
23		7983	8148	8314	8480	8645	8811	8976	9142	9307	9473	3-49
24		9638	9804	9969	0135	0300	0466	0631	0797	0962	1128	4-66
25	419.1293	1458	1624	1789	1955	2120	2286	2451	2616	2782		5-82
26		2947	3113	3278	3443	3609	3774	3939	4105	4270	4435	6-99
27		4601	4766	4931	5097	5262	5427	5592	5758	5923	6088	7-115
28		6254	6419	6584	6749	6915	7080	7245	7410	7575	7741	8-132
29		7906	8071	8236	8401	8567	8732	8897	9062	9227	9392	9-148
2630		9557	9723	9888	0053	0218	0383	0548	0713	0878	1043	
31	420.1208	1373	1539	1704	1869	2034	2199	2364	2529	2694		
32		2859	3024	3189	3354	3519	3684	3849	4014	4179	4344	
33		4509	4673	4838	5003	5168	5333	5498	5663	5828	5993	
34		6158	6323	6487	6652	6817	6982	7147	7312	7476	7641	
35		7806	7971	8136	8301	8465	8630	8795	8960	9124	9289	
36		9454	9619	9784	9948	0113	0278	0442	0607	0772	0937	
37	421.1101	1266	1431	1595	1760	1925	2089	2254	2419	2583		
38		2748	2912	3077	3242	3406	3571	3736	3900	4065	4229	
39		4394	4558	4723	4888	5052	5217	5381	5546	5710	5875	
2640		6039	6204	6368	6533	6697	6862	7026	7191	7355	7520	164
41		7684	7848	8013	8177	8342	8506	8671	8835	8999	9164	1-16
42		9328	9492	9657	9821	9986	0150	0314	0479	0643	0807	2-33
43	422.0972	1136	1300	1464	1629	1793	1957	2122	2286	2450		3-49
44		2614	2779	2943	3107	3271	3436	3600	3764	3928	4093	4-56
45		4257	4421	4585	4749	4913	5078	5242	5406	5570	5734	5-82
46		5898	6062	6227	6391	6555	6719	6883	7047	7211	7375	6-98
47		7539	7703	7867	8031	8196	8360	8524	8688	8852	9016	7-115
48		9180	9344	9508	9672	9836	10000	0164	0328	0492	0656	8-131
49	423.0820	0983	1147	1311	1475	1639	1803	1967	2131	2295		9-148
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10100

N. 26500 L 423

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2650	423	2459	2623	2786	2950	3114	3278	3442	3606	3770	3933	164
51		4097	4261	4425	4589	4752	4916	5080	5244	5408	5571	
52		5735	5899	6063	6226	6390	6554	6718	6881	7045	7209	
53		7372	7536	7700	7864	8027	8191	8355	8518	8682	8845	
54		9009	9173	9336	9500	9664	9827	9991	0154	0318	0482	
55	424	0645	0809	0972	1136	1299	1463	1627	1790	1954	2117	
56		2281	2444	2608	2771	2935	3098	3262	3425	3589	3752	163
57		3916	4079	4242	4406	4569	4733	4896	5060	5223	5386	
58		5550	5713	5876	6040	6203	6367	6530	6693	6857	7020	
59		7183	7347	7510	7673	7837	8000	8163	8326	8490	8653	
2660		8816	8980	9143	9306	9469	9633	9796	9959	0122	0285	163
61	425	0449	0612	0775	0938	1101	1265	1428	1591	1754	1917	1-16
62		2081	2244	2407	2570	2733	2896	3059	3222	3385	3549	2-33
63		3712	3875	4038	4201	4364	4527	4690	4853	5016	5179	3-49
64		5342	5505	5668	5831	5994	6157	6320	6483	6646	6809	4-65
65		6972	7135	7298	7461	7624	7787	7950	8113	8276	8439	5-81
66		8601	8764	8927	9090	9253	9416	9579	9742	9905	0068	6-98
67	426	0230	0393	0556	0719	0881	1044	1207	1370	1533	1695	7-114
68		1858	2021	2184	2347	2509	2672	2835	2998	3161	3323	8-130
69		3486	3648	3811	3974	4137	4299	4462	4625	4787	4950	9-147
2670		5113	5275	5438	5601	5763	5926	6088	6251	6414	6576	162
71		6739	6901	7064	7227	7389	7552	7714	7877	8039	8202	1-16
72		8365	8527	8690	8852	9015	9177	9340	9502	9665	9827	2-32
73		9990	0152	0314	0477	0639	0802	0964	1127	1289	1452	3-49
74	427	1614	1776	1939	2101	2264	2426	2588	2751	2913	3075	4-65
75		3238	3400	3563	3725	3887	4050	4212	4374	4536	4699	5-81
76		4861	5023	5186	5348	5510	5672	5835	5997	6159	6321	5-97
77		6484	6646	6808	6970	7133	7295	7457	7619	7781	7944	7-113
78		8106	8268	8430	8592	8754	8916	9079	9241	9403	9565	8-130
79		9727	9889	0051	0213	0375	0538	0700	0862	1024	1186	9-146
2680	428	1348	1510	1672	1834	1996	2158	2320	2482	2644	2806	
81		2968	3130	3292	3454	3616	3778	3940	4102	4264	4426	
82		4588	4750	4912	5073	5235	5397	5559	5721	5883	6045	
83		6207	6369	6530	6692	6854	7016	7178	7340	7501	7663	
84		7825	7987	8149	8310	8472	8634	8796	8958	9119	9281	
85		9443	9605	9766	9928	0090	0252	0413	0575	0737	0898	
86	429	1060	1222	1383	1545	1707	1868	2030	2192	2353	2515	
87		2677	2838	3000	3161	3323	3485	3646	3808	3969	4131	
88		4293	4454	4616	4777	4939	5100	5262	5423	5585	5746	161
89		5908	6069	6231	6392	6554	6715	6877	7038	7200	7361	
2690		7523	7684	7846	8007	8168	8330	8491	8653	8814	8976	161
91		9137	9298	9460	9621	9782	9944	0105	0266	0428	0589	1-16
92	430	0751	0912	1073	1234	1396	1557	1718	1880	2041	2202	2-32
93		2363	2525	2686	2847	3009	3170	3331	3492	3653	3815	3-48
94		3976	4137	4298	4459	4621	4782	4943	5104	5265	5426	4-64
95		5588	5749	5910	6071	6232	6393	6554	6716	6877	7038	5-80
96		7199	7360	7521	7682	7843	8004	8165	8326	8487	8648	6-97
97		8809	8970	9131	9292	9453	9614	9775	9936	0097	0258	7-113
98	431	0419	0580	0741	0902	1063	1224	1385	1546	1707	1868	8-129
99		2029	2190	2351	2511	2672	2833	2994	3155	3316	3477	9-146
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 27000 L. 431.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2700	431.3638	3791	3959	4120	4281	4442	4603	4763	4924	5085	161	161
01	5246	5407	5567	5728	5889	6050	6210	6371	6532	6693		1-16
02	6853	7014	7175	7336	7496	7657	7818	7978	8139	8300		2-32
03	8460	8621	8782	8942	9103	9264	9424	9585	9746	9906		3-48
04	432.0067	0227	0388	0549	0709	0870	1030	1191	1352	1512		4-64
05	1673	1833	1994	2154	2315	2475	2636	2796	2957	3117		5-80
06	3278	3438	3599	3759	3920	4080	4241	4401	4562	4722	160	6-97
07	4883	5043	5203	5364	5524	5685	5845	6005	6166	6326		7-113
08	6487	6647	6807	6968	7128	7288	7449	7609	7769	7930		8-129
09	8090	8250	8411	8571	8731	8892	9052	9212	9372	9533		9-145
2710	9693	9853	0013	0174	0334	0494	0654	0815	0975	1135		160
11	433.1295	1455	1616	1776	1936	2096	2256	2416	2577	2737		1-16
12	2897	3057	3217	3377	3537	3697	3857	4018	4178	4338		2-32
13	4498	4658	4818	4978	5138	5298	5458	5618	5778	5938		3-48
14	6098	6258	6418	6578	6738	6898	7058	7218	7378	7538		4-64
15	7698	7858	8018	8178	8338	8498	8658	8818	8978	9138		5-80
16	9298	9458	9617	9777	9935	0097	0257	0417	0577	0736		6-96
17	434.0896	1056	1216	1376	1536	1695	1855	2015	2175	2335		7-112
18	2495	2654	2814	2974	3134	3293	3453	3613	3773	3932		8-128
19	4092	4252	4411	4571	4731	4891	5050	5210	5370	5529		9-144
2720	5689	5849	6008	6168	6328	6487	6647	6807	6966	7126		159
21	7285	7445	7605	7764	7924	8083	8243	8402	8562	8722		1-16
22	8881	9041	9200	9360	9519	9679	9838	9998	0157	0317		2-32
23	435.0476	0636	0795	0955	1114	1274	1433	1593	1752	1912	1593	3-48
24	2071	2230	2390	2549	2709	2868	3027	3187	3346	3506		4-64
25	3665	3824	3984	4143	4302	4462	4621	4780	4940	5099		5-79
26	5259	5418	5577	5736	5896	6055	6214	6374	6533	6692		6-95
27	6851	7011	7170	7329	7488	7648	7807	7966	8125	8284		7-111
28	8444	8603	8762	8921	9080	9240	9399	9558	9717	9876		8-127
29	436.0035	0194	0354	0513	0672	0831	0990	1149	1308	1467		9-143
2730	1626	1786	1945	2104	2263	2422	2581	2740	2899	3058		
31	3217	3376	3535	3694	3853	4012	4171	4330	4489	4648		
32	4807	4966	5125	5284	5443	5602	5761	5920	6078	6237		
33	6396	6555	6714	6873	7032	7191	7350	7508	7667	7826		
34	7985	8144	8303	8462	8620	8779	8938	9097	9256	9414		
35	9573	9732	9891	0050	0208	0367	0526	0685	0843	1002		
36	437.1161	1320	1478	1637	1796	1954	2113	2272	2431	2589		
37	2748	2907	3065	3224	3383	3541	3700	3859	4017	4176		
38	4334	4493	4652	4810	4969	5127	5286	5445	5603	5762		
39	5920	6079	6237	6396	6554	6713	6872	7030	7189	7347		
2740	7506	7664	7823	7981	8140	8298	8456	8615	8773	8932	1581	158
41	9090	9249	9407	9566	9724	9882	0041	0199	0358	0516		1-16
42	438.0675	0833	0991	1150	1308	1466	1625	1783	1941	2100		2-32
43	2258	2416	2575	2733	2891	3050	3208	3366	3524	3683		3-47
44	3841	3999	4158	4316	4474	4632	4791	4949	5107	5265		4-63
45	5423	5582	5740	5898	6056	6214	6373	6531	6689	6847		5-79
46	7006	7163	7322	7480	7638	7796	7954	8112	8270	8428		6-95
47	8587	8745	8903	9061	9219	9377	9535	9693	9851	0009		7-111
48	439.0160	0325	0483	0641	0799	0957	1115	1273	1431	1589		8-126
49	1747	1905	2063	2221	2379	2537	2695	2853	3011	3169		9-142
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to 101000.

N. 27500. L. 439

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2750	439	3327	3485	3643	3801	3959	4116	4274	4432	4590	4748	158
51		4906	5064	5222	5379	5537	5695	5853	6011	6169	6326	
52		6484	6642	6800	6958	7115	7273	7431	7589	7747	7904	
53		8062	8220	8378	8535	8693	8851	9008	9166	9324	9482	
54		9639	9797	9955	0112	0270	0428	0585	0743	0901	1058	
55	440	1216	1374	1531	1689	1846	2004	2162	2319	2477	2634	
56		2792	2950	3107	3265	3422	3580	3737	3895	4053	4210	
57		4368	4525	4683	4840	4998	5155	5313	5470	5628	5785	157
58		5943	6100	6257	6415	6572	6730	6887	7045	7202	7360	
59		7517	7674	7832	7989	8147	8304	8461	8619	8776	8933	
2760		9091	9248	9405	9563	9720	9877	0035	0192	0349	0507	157
61	441	0664	0821	0979	1136	1293	1450	1608	1765	1922	2079	1-16
62		2237	2394	2551	2708	2866	3023	3180	3337	3494	3652	2-31
63		3809	3966	4123	4280	4437	4595	4752	4909	5066	5223	3-47
64		5380	5537	5695	5852	6009	6166	6323	6480	6637	6794	4-63
65		6951	7108	7265	7422	7580	7737	7894	8051	8208	8365	5-78
66		8522	8679	8836	8993	9150	9307	9464	9621	9778	9935	6-94
67	442	0092	0248	0405	0562	0719	0876	1033	1190	1347	1504	7-110
68		1661	1818	1975	2131	2288	2445	2602	2759	2916	3073	8-126
69		3230	3386	3543	3700	3857	4014	4170	4327	4484	4641	9-141
2770		4798	4954	5111	5268	5425	5581	5738	5895	6052	6208	156
71		6365	6522	6679	6835	6992	7149	7305	7462	7619	7776	1-16
72		7932	8089	8246	8402	8559	8715	8872	9029	9185	9342	2-31
73		9499	9655	9812	9968	0125	0282	0438	0595	0751	0908	3-47
74	443	1065	1221	1378	1534	1691	1847	2004	2160	2317	2473	4-62
75		2630	2786	2943	3099	3256	3412	3569	3725	3882	4038	5-78
76		4195	4351	4507	4664	4820	4977	5133	5290	5446	5602	6-94
77		5759	5915	6072	6228	6384	6541	6697	6853	7010	7166	7-109
78		7322	7479	7635	7791	7948	8104	8260	8417	8573	8729	8-125
79		8885	9042	9198	9354	9510	9667	9823	9979	0135	0292	9-140
2780	444	0448	0604	0760	0917	1073	1229	1385	1541	1697	1854	
81		2010	2166	2322	2478	2634	2791	2947	3103	3259	3415	
82		3571	3727	3883	4040	4196	4352	4508	4664	4820	4976	
83		5132	5288	5444	5600	5756	5912	6068	6224	6380	6536	
84		6692	6848	7004	7160	7316	7472	7628	7784	7940	8096	
85		8253	8408	8564	8720	8876	9032	9187	9343	9499	9655	
86		9811	9967	0123	0279	0435	0590	0746	0902	1058	1214	
87	445	1370	1525	1681	1837	1993	2149	2305	2460	2616	2772	
88		2928	3083	3239	3395	3551	3706	3862	4018	4174	4329	
89		4485	4641	4797	4952	5108	5264	5419	5575	5731	5886	
2790		6042	6198	6353	6509	6665	6820	6976	7131	7287	7443	155
91		7598	7754	7910	8065	8221	8376	8532	8687	8843	8999	1-15
92		9154	9310	9465	9621	9776	9932	0087	0243	0398	0554	2-31
93	446	0709	0865	1020	1176	1331	1487	1642	1797	1953	2109	3-46
94		2264	2419	2575	2730	2886	3041	3196	3352	3507	3663	4-62
95		3818	3973	4129	4284	4440	4595	4750	4906	5061	5216	5-77
96		5372	5527	5682	5838	5993	6148	6303	6459	6614	6769	6-93
97		6925	7080	7235	7390	7546	7701	7856	8011	8167	8322	7-108
98		8477	8632	8787	8943	9098	9253	9408	9563	9719	9874	8-124
99	447	0029	0184	0339	0494	0650	0805	0960	1115	1270	1425	9-139
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N. 28000. L 447.

Logarithms

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2800	447.1580	1735	1890	2046	2201	2356	2511	2666	2821	2976	155	155
01	3131	3286	3441	3596	3751	3906	4061	4216	4371	4526		1-15
02	4681	4836	4991	5146	5301	5456	5611	5766	5921	6076		2-31
03	6231	6386	6541	6696	6851	7006	7161	7315	7470	7625		3-46
04	7780	7935	8090	8245	8400	8554	8709	8864	9019	9174		4-62
05	9329	9483	9638	9793	9948	0103	0257	0412	0567	0722		5-77
06	448.0877	1031	1186	1341	1496	1650	1805	1960	2115	2269		6-93
07	2424	2579	2734	2888	3043	3198	3352	3507	3662	3816		7-108
08	3971	4126	4280	4435	4590	4744	4899	5053	5208	5363		8-124
09	5517	5672	5827	5981	6136	6290	6445	6599	6754	6909		9-139
2810	7063	7218	7372	7527	7681	7836	7990	8145	8299	8454		154
11	8608	8763	8917	9072	9226	9381	9535	9690	9844	9999	154	1-15
12	449.0153	0308	0462	0616	0771	0925	1080	1234	1388	1543		2-31
13	1697	1852	2006	2160	2315	2469	2623	2778	2932	3087		3-46
14	3241	3395	3550	3704	3858	4012	4167	4321	4475	4630		4-62
15	4784	4938	5092	5247	5401	5555	5710	5864	6018	6172		5-77
16	6327	6481	6635	6789	6943	7098	7252	7406	7560	7714		6-92
17	7868	8023	8177	8331	8485	8639	8793	8947	9102	9256		7-108
18	9410	9564	9718	9872	0026	0180	0334	0489	0643	0797		8-123
19	450.0951	1105	1259	1413	1567	1721	1875	2029	2183	2337		9-139
2820	2491	2645	2799	2953	3107	3261	3415	3569	3722	3877		
21	4031	4185	4339	4493	4647	4800	4954	5108	5262	5416		
22	5570	5724	5878	6032	6186	6339	6493	6647	6801	6955		
23	7109	7263	7416	7570	7724	7878	8032	8185	8339	8493		
24	8647	8801	8954	9108	9262	9416	9569	9723	9877	0031		
25	451.0185	0338	0492	0645	0799	0953	1107	1260	1414	1568		
26	1722	1875	2029	2183	2336	2490	2643	2797	2951	3104		
27	3258	3412	3565	3719	3872	4026	4180	4333	4487	4640		
28	4794	4948	5101	5255	5408	5562	5715	5869	6022	6176		
29	6329	6483	6636	6790	6943	7097	7250	7404	7557	7711	153	
2830	7864	8018	8171	8325	8478	8632	8785	8938	9092	9245		153
31	9399	9552	9705	9859	0012	0166	0319	0472	0626	0779		1-15
32	452.0932	1086	1239	1392	1546	1699	1852	2006	2159	2312		2-31
33	2466	2619	2772	2926	3079	3232	3385	3539	3692	3845		3-46
34	3998	4152	4305	4458	4611	4765	4918	5071	5224	5377		4-61
35	5531	5684	5837	5990	6143	6296	6450	6603	6756	6909		5-76
36	7062	7215	7368	7521	7675	7828	7981	8134	8287	8440		6-92
37	8592	8746	8899	9052	9206	9359	9512	9665	9818	9971		7-107
38	453.0124	0277	0430	0583	0736	0889	1042	1195	1347	1501		8-122
39	1654	1807	1960	2113	2266	2419	2572	2725	2877	3030		9-138
2840	3183	3336	3489	3642	3795	3948	4101	4254	4407	4559		
41	4712	4865	5018	5171	5324	5477	5629	5782	5935	6088		
42	6241	6393	6546	6699	6852	7005	7157	7310	7463	7616		
43	7769	7921	8074	8227	8380	8532	8685	8838	8990	9143		
44	9296	9449	9601	9754	9907	0059	0212	0365	0517	0670		
45	454.0823	0975	1128	1281	1433	1586	1738	1891	2044	2196		
46	2349	2502	2654	2807	2959	3112	3264	3417	3570	3722		
47	3875	4027	4180	4332	4485	4637	4790	4942	5095	5247		
48	5400	5552	5705	5857	6010	6162	6315	6467	6620	6772	152	
49	6924	7077	7229	7382	7534	7687	7839	7991	8144	8296		
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2850	454	8449	8601	8753	8906	9058	9210	9363	9515	9667	9820	152
51	9972	0124	0277	0429	0581	0734	0886	1038	1191	1343		1-15
52	455	7495	1647	1800	1952	2104	2256	2409	2561	2713	2865	2-30
53	3018	3170	3322	3474	3627	3779	3931	4083	4235	4387		3-46
54	4540	4692	4844	4996	5148	5300	5453	5605	5757	5909		4-61
55	6061	6213	6365	6517	6670	6822	6974	7126	7278	7430		5-76
56	7582	7734	7886	8038	8190	8342	8494	8646	8798	8950		6-91
57	9102	9254	9406	9558	9710	9862	0014	0166	0318	0470		7-106
58	456	0612	0774	0926	1078	1230	1382	1534	1686	1838	1990	8-122
59	2142	2293	2445	2597	2749	2901	3053	3205	3357	3508		9-137
2860	3660	3812	3964	4116	4268	4419	4571	4723	4875	5027		
61	5179	5330	5482	5634	5786	5937	6089	6241	6393	6544		
62	6096	6848	7000	7151	7303	7455	7607	7758	7910	8062		
63	8213	8365	8517	8668	8820	8972	9123	9275	9427	9578		
64	9730	9882	0033	0185	0337	0488	0640	0791	0943	1095		
65	457	1246	1398	1549	1701	1853	2004	2156	2307	2459	2610	
66	2762	2913	3065	3216	3368	3519	3671	3822	3974	4125		
67	4277	4428	4580	4731	4883	5034	5186	5337	5489	5640	151	
68	5791	5943	6094	6246	6397	6548	6700	6851	7003	7154		
69	7305	7457	7608	7760	7911	8062	8214	8365	8516	8668		
2870	8819	8970	9122	9273	9424	9575	9727	9878	0029	0181		151
71	458	0332	0483	0634	0786	0937	1088	1239	1391	1542	1693	1-15
72	1844	1996	2147	2298	2449	2600	2752	2903	3054	3205		2-30
73	3356	3507	3659	3810	3961	4112	4263	4414	4565	4716		3-45
74	4868	5019	5170	5321	5472	5623	5774	5925	6076	6227		4-60
75	6378	6529	6681	6832	6983	7134	7285	7436	7587	7738		5-75
76	7889	8040	8191	8342	8493	8644	8795	8946	9097	9248		6-91
77	9399	9550	9700	9851	0002	0153	0304	0455	0606	0757		7-106
78	459	0908	1059	1210	1361	1511	1662	1813	1964	2115	2266	8-121
79	2417	2567	2718	2869	3020	3171	3322	3473	3623	3774		9-136
2880	3925	4076	4226	4377	4528	4679	4830	4980	5131	5282		
81	5433	5583	5734	5885	6035	6186	6337	6488	6638	6789		
82	6940	7090	7241	7392	7542	7693	7844	7994	8145	8296		
83	8446	8597	8748	8898	9049	9200	9350	9501	9651	9802		
84	9953	0103	0254	0404	0555	0705	0856	1006	1157	1308		
85	460	1458	1609	1759	1910	2060	2211	2361	2512	2662	2813	
86	2963	3114	3264	3415	3565	3716	3866	4016	4167	4317	150	
87	4468	4618	4769	4919	5069	5220	5370	5521	5671	5821		
88	5972	6122	6273	6423	6573	6724	6874	7024	7175	7325		
89	7475	7626	7776	7926	8077	8227	8377	8528	8678	8828		
2890	8978	9129	9279	9429	9579	9730	9880	0030	0180	0331		150
91	461	0481	0631	0781	0932	1082	1232	1382	1532	1682	1833	1-15
92	1983	2133	2283	2433	2583	2734	2884	3034	3184	3334		2-30
93	3484	3634	3785	3935	4085	4235	4385	4535	4685	4835		3-45
94	4985	5135	5285	5435	5585	5735	5886	6036	6186	6336		4-60
95	6486	6636	6786	6936	7086	7236	7386	7536	7686	7836		5-75
96	7986	8135	8285	8435	8585	8735	8885	9035	9185	9335		6-90
97	9485	9635	9785	9935	0085	0234	0384	0534	0684	0834		7-105
98	462	0984	1134	1283	1433	1583	1733	1883	2033	2182	2332	8-120
99	2482	2632	2782	2932	3081	3231	3381	3531	3680	3830		9-135
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2900	462.3980	4130	4279	4429	4579	4729	4878	5028	5178	5328	150	150
01	5477	5627	5777	5926	6076	6226	6375	6525	6675	6824		1-15
02	6974	7124	7273	7423	7573	7722	7872	8021	8171	8321		2-30
03	8470	8620	8770	8919	9069	9218	9368	9517	9667	9817		3-45
04	9966	0116	0265	0415	0564	0714	0863	1013	1162	1312		4-60
05	463.1461	1611	1760	1910	2059	2209	2358	2508	2657	2807	149	5-75
06	2956	3105	3255	3404	3554	3703	3853	4002	4151	4301		6-90
07	4450	4600	4749	4898	5048	5197	5347	5496	5645	5795		7-105
08	5944	6093	6243	6392	6541	6691	6840	6989	7139	7288		8-120
09	7437	7586	7736	7885	8034	8184	8333	8482	8631	8781		9-135
2910	8930	9079	9228	9378	9527	9676	9825	9974	0124	0273		149
11	464.0422	0571	0720	0870	1019	1168	1317	1466	1615	1765		1-15
12	1914	2063	2212	2361	2510	2659	2808	2958	3107	3256		2-30
13	3405	3554	3703	3852	4001	4150	4299	4448	4597	4746		3-45
14	4895	5044	5193	5343	5492	5641	5790	5939	6088	6237		4-60
15	6386	6535	6684	6833	6981	7130	7279	7428	7577	7726		5-74
16	7875	8024	8173	8322	8471	8620	8769	8918	9068	9215		6-89
17	9364	9513	9662	9811	9960	0109	0257	0406	0555	0704		7-104
18	465.0853	1002	1150	1299	1448	1597	1746	1895	2043	2192		8-119
19	2341	2490	2638	2787	2936	3085	3234	3382	3531	3680		9-134
2920	3829	3977	4126	4275	4423	4572	4721	4869	5018	5167		
21	5316	5464	5613	5762	5910	6059	6208	6356	6505	6653		
22	6802	6951	7099	7248	7397	7545	7694	7842	7991	8140		
23	8288	8437	8585	8734	8882	9031	9179	9328	9477	9625		
24	9774	9922	0071	0219	0368	0516	0665	0813	0962	1110		
25	466.1259	1407	1556	1704	1853	2001	2149	2298	2446	2595	148	
26	2743	2892	3040	3188	3337	3485	3634	3782	3930	4079		
27	4227	4376	4524	4672	4821	4969	5117	5266	5414	5562		
28	5711	5859	6007	6156	6304	6452	6601	6749	6897	7045		
29	7194	7342	7490	7638	7787	7935	8083	8231	8380	8528		
2930	8676	8824	8973	9121	9269	9417	9565	9714	9862	0010		148
31	467.0158	0306	0454	0603	0751	0899	1047	1195	1343	1491		1-15
32	1640	1788	1936	2084	2232	2380	2528	2676	2824	2973		2-30
33	3121	3269	3417	3565	3713	3861	4009	4157	4305	4453		3-44
34	4601	4749	4897	5045	5193	5341	5489	5637	5785	5933		4-59
35	6081	6229	6377	6525	6673	6821	6969	7117	7265	7413		5-74
36	7561	7708	7856	8004	8152	8300	8448	8596	8744	8892		6-89
37	9039	9187	9335	9483	9631	9779	9927	0074	0222	0370		7-104
38	468.0518	0666	0813	0961	1109	1257	1405	1552	1700	1848		8-118
39	1996	2144	2291	2439	2587	2735	2882	3030	3178	3326		9-133
2940	3473	3621	3769	3916	4064	4212	4359	4507	4655	4803		
41	4955	5098	5246	5393	5541	5688	5836	5984	6131	6279		
42	6427	6574	6722	6869	7017	7165	7312	7460	7607	7755		
43	7905	8053	8198	8345	8493	8640	8788	8935	9083	9230		
44	9378	9526	9673	9821	9968	0116	0263	0411	0558	0705	147	
45	469.0853	1000	1148	1295	1443	1590	1738	1885	2033	2180		
46	2327	2475	2622	2770	2917	3064	3212	3359	3507	3654		
47	3501	3649	3796	3943	4091	4238	4385	4533	4680	4827		
48	5275	5422	5569	5717	5864	6011	6159	6306	6453	6600		
49	6748	6895	7042	7189	7337	7484	7631	7778	7926	8073		
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51	9632	9839	9986	0134	0281	0428	0575	0722	0869	1016	1-15
52	470.1164	1311	1458	1605	1752	1899	2046	2193	2340	2487	2-29
53	2634	2781	2929	3076	3223	3370	3517	3664	3811	3958	3-44
54	4105	4252	4399	4546	4693	4840	4987	5134	5281	5428	4-59
55	5575	5722	5869	6016	6163	6310	6457	6603	6750	6897	5-73
56	7044	7191	7338	7485	7632	7779	7926	8073	8219	8366	6-88
57	8513	8660	8807	8954	9101	9247	9394	9541	9688	9835	7-103
58	9982	0128	0275	0422	0569	0716	0862	1009	1155	1303	8-118
59	471.1450	1596	1743	1890	2037	2183	2330	2477	2624	2770	9-132
2960	2917	3064	3210	3357	3504	3651	3797	3944	4091	4237	
61	4184	4331	4477	4624	4771	4917	5064	5211	5357	5504	
62	5851	5997	6144	6290	6437	6584	6730	6877	7023	7170	
63	7317	7463	7610	7756	7903	8049	8196	8342	8489	8635	
64	8782	8928	9075	9221	9368	9514	9661	9807	9954	0100	146
65	472.0247	0393	0540	0686	0833	0979	1126	1272	1419	1565	
66	1711	1858	2004	2151	2297	2443	2590	2736	2883	3029	
67	3175	3322	3468	3615	3761	3907	4054	4200	4346	4493	
68	4639	4785	4932	5078	5224	5370	5517	5663	5809	5955	
69	6102	6248	6394	6541	6687	6833	6979	7126	7272	7418	
2970	7564	7711	7857	8003	8149	8296	8442	8588	8734	8880	146
71	9027	9173	9319	9465	9611	9757	9903	0050	0196	0342	1-15
72	473.0488	0634	0780	0926	1072	1219	1365	1511	1657	1803	2-29
73	1949	2095	2241	2387	2533	2679	2825	2971	3118	3264	3-44
74	3410	3556	3702	3848	3994	4140	4286	4432	4578	4724	4-58
75	4870	5016	5162	5308	5454	5599	5745	5891	6037	6183	5-73
76	6329	6475	6621	6767	6913	7059	7205	7351	7497	7642	6-88
77	7788	7934	8080	8226	8372	8518	8664	8809	8955	9101	7-102
78	9247	9393	9539	9684	9830	9976	0122	0268	0413	0559	8-117
79	474.0705	0851	0997	1142	1288	1434	1580	1725	1871	2017	9-131
2980	2163	2308	2454	2600	2745	2891	3037	3183	3328	3474	
81	3620	3765	3911	4057	4202	4348	4494	4639	4785	4931	
82	5076	5222	5368	5513	5659	5804	5950	6096	6241	6387	
83	6533	6678	6824	6969	7115	7260	7406	7551	7697	7843	
84	7988	8134	8279	8425	8570	8716	8861	9007	9152	9298	145
85	9443	9589	9734	9880	0025	0171	0316	0462	0607	0752	
86	475.0898	1043	1189	1334	1480	1625	1771	1916	2061	2207	
87	2352	2498	2643	2788	2934	3079	3224	3370	3515	3660	
88	3806	3951	4097	4242	4387	4533	4678	4823	4968	5114	
89	5259	5404	5550	5695	5840	5985	6131	6276	6421	6567	
2990	6712	6857	7002	7148	7293	7438	7583	7728	7874	8019	145
91	8164	8309	8454	8600	8745	8890	9035	9180	9325	9471	1-14
92	9616	9761	9906	0051	0190	0341	0487	0632	0777	0922	2-29
93	476.1067	1212	1357	1502	1647	1793	1938	2083	2228	2373	3-43
94	2518	2663	2808	2953	3098	3243	3388	3533	3678	3823	4-58
95	3968	4113	4258	4403	4548	4693	4838	4983	5128	5273	5-72
96	5418	5563	5708	5853	5998	6143	6288	6433	6578	6722	6-87
97	6867	7012	7157	7302	7447	7592	7737	7882	8026	8171	7-101
98	8316	8461	8606	8751	8896	9040	9185	9330	9475	9620	8-116
99	9765	9909	0054	0199	0344	0489	0633	0778	0923	1068	9-130
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01	2660	2805	2949	3094	3239	3383	3528	3673	3817	3962		1-14
02	4107	4251	4396	4541	4685	4830	4975	5119	5264	5409		2-29
03	5553	5698	5842	5987	6131	6276	6421	6565	6710	6855		3-43
04	6999	7144	7288	7433	7577	7722	7867	8011	8156	8300		4-58
05	8445	8589	8734	8878	9023	9167	9312	9456	9601	9745		5-72
06	9890	0034	0179	0323	0468	0612	0756	0901	1045	1190	144	6-87
07	478.1334	1479	1623	1767	1912	2056	2201	2345	2490	2634		7-101
08	2778	2923	3067	3211	3356	3500	3644	3789	3933	4077		8-116
09	4222	4366	4510	4655	4799	4943	5088	5232	5376	5521		9-130
3010	5665	5809	5953	6098	6242	6386	6531	6675	6819	6963		144
11	7108	7252	7396	7540	7684	7829	7973	8117	8261	8405		1-14
12	8550	8694	8838	8982	9126	9271	9415	9559	9703	9847		2-29
13	9991	0135	0278	0422	0566	0712	0856	1001	1144	1288		3-43
14	479.1432	1577	1721	1865	2009	2153	2297	2441	2585	2729		4-58
15	2873	3017	3161	3305	3449	3593	3737	3881	4025	4169		5-72
16	4313	4457	4601	4745	4889	5033	5177	5321	5465	5609		6-86
17	5753	5897	6041	6185	6329	6473	6617	6761	6904	7048		7-101
18	7192	7335	7478	7622	7766	7912	8056	8200	8343	8487		8-115
19	8631	8775	8919	9063	9206	9350	9494	9638	9782	9926		9-130
3020	480.0069	0213	0357	0501	0645	0788	0932	1076	1220	1363		
21	1507	1651	1795	1938	2082	2226	2370	2513	2657	2801		
22	2945	3088	3232	3376	3519	3663	3807	3950	4094	4238		
23	4381	4525	4669	4812	4956	5100	5243	5387	5531	5674		
24	5818	5961	6105	6249	6392	6536	6679	6823	6967	7110		
25	7254	7397	7541	7684	7828	7972	8115	8259	8402	8546		
26	8689	8833	8976	9120	9263	9407	9550	9694	9837	9981	143	
27	481.0124	0268	0411	0555	0698	0841	0985	1128	1272	1415		
28	1559	1702	1846	1989	2132	2276	2419	2563	2706	2849		
29	2993	3136	3279	3423	3566	3710	3853	3996	4140	4283		
3030	4426	4570	4713	4856	5000	5143	5286	5429	5573	5716		143
31	5859	6003	6146	6289	6432	6576	6719	6862	7005	7149		1-14
32	7292	7435	7578	7722	7865	8008	8151	8294	8438	8581		2-29
33	8724	8867	9010	9154	9297	9440	9583	9726	9869	0013		3-43
34	482.0156	0299	0442	0585	0728	0871	1014	1158	1301	1444		4-57
35	1587	1730	1873	2016	2159	2302	2445	2588	2732	2875		5-71
36	3018	3161	3304	3447	3590	3733	3876	4019	4162	4305		6-86
37	4448	4591	4734	4877	5020	5163	5306	5449	5592	5735		7-100
38	5878	6021	6164	6306	6449	6592	6735	6878	7021	7164		8-114
39	7307	7450	7593	7736	7879	8021	8164	8307	8450	8593		9-129
3040	8736	8879	9021	9164	9307	9450	9593	9735	9879	0021		
41	483.0164	0307	0450	0593	0735	0878	1021	1164	1307	1449		
42	1592	1735	1878	2020	2163	2306	2449	2591	2734	2877		
43	3020	3162	3305	3448	3590	3733	3876	4018	4161	4304		
44	4446	4589	4732	4874	5017	5160	5302	5445	5588	5730		
45	5873	6016	6158	6301	6443	6586	6729	6871	7014	7156		
46	7299	7442	7584	7727	7869	8012	8154	8297	8439	8582		
47	8725	8867	9010	9152	9295	9437	9580	9722	9865	0007		
48	484.0150	0292	0435	0577	0719	0862	1004	1147	1289	1432	142	
49	1574	1717	1859	2001	2144	2286	2429	2571	2714	2856		
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TO 10100.

N. 30500 L 484

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51	4422	4564	4707	4849	4991	5134	5276	5418	5561	5703		1-14
52	5845	5988	6130	6272	6414	6557	6699	6841	6983	7126		2-28
53	7268	7410	7552	7695	7837	7979	8121	8264	8406	8548		3-43
54	8690	8832	8975	9117	9259	9401	9543	9686	9828	9970		4-57
55	485.0112	0254	0396	0539	0681	0823	0965	1107	1249	1391		5-71
56	1533	1676	1818	1960	2102	2244	2386	2528	2670	2812		6-85
57	2954	3096	3238	3381	3523	3665	3807	3949	4091	4233		7-99
58	4375	4517	4659	4801	4943	5085	5227	5369	5511	5653		8-114
59	5795	5937	6079	6221	6363	6505	6646	6788	6930	7072		9-128
3060	7214	7356	7498	7640	7782	7924	8066	8208	8349	8491		
61	8633	8775	8917	9059	9201	9343	9484	9626	9768	9910		
62	486.0052	0194	0335	0477	0619	0761	0903	1045	1186	1328		
63	1470	1612	1753	1895	2037	2179	2321	2462	2604	2746		
64	2888	3029	3171	3313	3454	3596	3738	3880	4021	4163		
65	4305	4446	4588	4730	4871	5013	5155	5296	5438	5580		
66	5722	5863	6005	6146	6288	6430	6571	6713	6854	6996		
67	7138	7279	7421	7562	7704	7846	7987	8129	8270	8412		
68	8554	8695	8837	8978	9120	9261	9403	9544	9686	9827		
69	9969	0110	0252	0393	0535	0676	0818	0959	1101	1242	141	
3070	487.1384	1525	1667	1808	1950	2091	2232	2374	2515	2657		141
71	2798	2940	3081	3222	3364	3505	3647	3788	3929	4071		1-14
72	4212	4353	4495	4636	4778	4919	5060	5202	5343	5484		2-28
73	5626	5767	5908	6050	6191	6332	6473	6615	6756	6897		3-42
74	7039	7180	7321	7462	7604	7745	7886	8027	8169	8310		4-56
75	8451	8592	8734	8875	9016	9157	9298	9440	9581	9722		5-70
76	9863	0004	0146	0287	0428	0569	0710	0851	0993	1134		6-85
77	488.1275	1416	1557	1698	1839	1981	2122	2263	2404	2545		7-99
78	2686	2827	2968	3109	3250	3392	3533	3674	3815	3956		8-113
79	4097	4238	4379	4520	4661	4802	4943	5084	5225	5366		9-127
3080	5507	5648	5789	5930	6071	6212	6353	6494	6635	6776		
81	6917	7058	7199	7340	7481	7622	7763	7904	8044	8185		
82	8326	8467	8608	8749	8890	9031	9172	9313	9453	9594		
83	9735	9876	1017	1058	1099	1240	1381	1522	1663	1804		
84	489.1144	1284	1425	1566	1707	1848	1988	2129	2270	2411		
85	2552	2692	2833	2974	3115	3255	3396	3537	3678	3818		
86	3959	4100	4241	4381	4522	4663	4803	4944	5085	5226		
87	5366	5507	5648	5788	5929	6070	6210	6351	6492	6632		
88	6773	6914	7054	7195	7335	7476	7617	7757	7898	8038		
89	8179	8320	8460	8601	8741	8882	9023	9163	9304	9444		
3090	9585	9725	9866	1006	0147	0287	0428	0568	0709	0849		140
91	490.0990	1131	1271	1411	1552	1692	1833	1973	2114	2254	140	1-14
92	2395	2535	2676	2816	2957	3097	3237	3378	3518	3659		2-28
93	3799	3940	4080	4220	4361	4501	4641	4782	4922	5063		3-42
94	5203	5343	5484	5624	5765	5905	6045	6185	6326	6466		4-56
95	6607	6747	6887	7027	7168	7308	7448	7589	7729	7869		5-70
96	8010	8150	8290	8430	8571	8711	8851	8991	9131	9272		6-84
97	9412	9552	9692	9833	9973	0113	0253	0394	0534	0674		7-98
98	491.0814	0954	1094	1235	1375	1515	1655	1795	1935	2076		8-112
99	2216	2356	2496	2636	2776	2916	3056	3197	3337	3477		9-126
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3100	491	3617	3757	3897	4037	4177	4317	4457	4597	4738	4878	140
01		5018	5158	5298	5438	5578	5718	5858	5998	6138	6278	1—14
02		6418	6558	6698	6838	6978	7118	7258	7398	7538	7678	2—28
03		7818	7958	8098	8238	8378	8517	8657	8797	8937	9077	3—42
04		9217	9357	9497	9637	9777	9917	0056	0196	0336	0476	4—56
05	492	0616	0756	0896	1036	1175	1315	1455	1595	1735	1875	5—70
06		2015	2154	2294	2434	2574	2714	2853	2993	3133	3273	6—84
07		3413	3552	3692	3832	3972	4111	4251	4391	4531	4670	7—98
08		4810	4950	5090	5229	5369	5509	5648	5788	5928	6067	8—112
09		6207	6347	6487	6626	6766	6906	7045	7185	7325	7464	9—126
10		7604	7743	7883	8023	8162	8302	8442	8581	8721	8860	
11		9000	9140	9279	9419	9558	9698	9838	9977	0117	0256	
12	493	0396	0535	0675	0814	0954	1094	1233	1373	1512	1652	
13		1791	1931	2070	2210	2349	2489	2628	2768	2907	3047	139
14		3186	3325	3465	3604	3744	3883	4023	4162	4302	4441	
15		4581	4720	4859	4999	5138	5278	5417	5556	5696	5835	
16		5974	6114	6253	6393	6532	6671	6811	6950	7089	7229	
17		7368	7507	7647	7786	7925	8065	8204	8343	8482	8622	
18		8761	8900	9040	9179	9318	9457	9597	9736	9875	0014	
19	494	0154	0293	0432	0571	0711	0850	0989	1128	1267	1407	
20		1546	1685	1824	1963	2103	2242	2381	2520	2659	2798	139
21		2938	3077	3216	3355	3494	3633	3772	3912	4051	4190	1—14
22		4329	4468	4607	4746	4885	5024	5164	5303	5442	5581	2—28
23		5720	5859	5998	6137	6276	6415	6554	6693	6832	6971	3—42
24		7110	7249	7388	7527	7666	7805	7944	8083	8222	8361	4—56
25		8500	8639	8778	8917	9056	9195	9334	9473	9612	9751	5—69
26		9890	0029	0168	0307	0445	0584	0723	0862	1001	1140	6—83
27	495	1279	1418	1557	1695	1834	1973	2112	2251	2390	2529	7—97
28		2667	2806	2945	3084	3223	3362	3500	3639	3778	3917	8—111
29		4056	4194	4333	4472	4611	4750	4888	5027	5166	5305	9—125
30		5443	5582	5721	5860	5998	6137	6276	6414	6553	6692	
31		6831	6969	7108	7247	7385	7524	7663	7801	7940	8079	
32		8218	8356	8495	8633	8772	8911	9049	9188	9327	9465	
33		9604	9743	9881	0020	0158	0297	0436	0574	0713	0851	
34	496	0990	1128	1267	1406	1544	1683	1821	1960	2098	2237	
35		2375	2514	2652	2791	2929	3068	3207	3345	3484	3622	
36		3761	3899	4037	4176	4314	4453	4591	4730	4868	5007	138
37		5145	5284	5422	5560	5699	5837	5976	6114	6253	6391	
38		6529	6668	6806	6945	7083	7221	7360	7498	7636	7775	
39		7913	8051	8190	8328	8466	8605	8743	8881	9020	9158	
40		9296	9435	9573	9711	9850	9988	0126	0264	0403	0541	138
41	497	0679	0818	0956	1094	1232	1371	1509	1647	1785	1924	1—14
42		2062	2200	2338	2476	2615	2753	2891	3029	3167	3306	2—28
43		3444	3582	3720	3858	3996	4135	4273	4411	4549	4687	3—41
44		4825	4963	5102	5240	5378	5516	5654	5792	5930	6068	4—55
45		6206	6345	6483	6621	6759	6897	7035	7173	7311	7449	5—69
46		7587	7725	7863	8001	8139	8277	8415	8553	8691	8829	6—83
47		8967	9105	9243	9381	9519	9657	9795	9933	0071	0209	7—97
48	498	0347	0485	0623	0761	0899	1037	1175	1313	1451	1589	8—110
49		1727	1864	2002	2140	2278	2416	2554	2692	2830	2968	9—124
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

10 101000.

N. 31500. L. 498

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3150	498	3106	3243	3381	3519	3657	3795	3933	4070	4208	4346	
51		4484	4622	4760	4897	5035	5173	5311	5449	5586	5724	
52		5862	6000	6138	6275	6413	6551	6689	6826	6964	7102	
53		7240	7377	7515	7653	7791	7928	8066	8204	8341	8479	
54		8617	8755	8892	9030	9168	9305	9443	9581	9718	9856	
55		9994	0131	0269	0407	0544	0682	0819	0957	1095	1232	
56	499	1370	1508	1645	1783	1920	2058	2195	2333	2471	2608	
57		2746	2883	3021	3158	3296	3434	3571	3709	3846	3984	
58		4121	4259	4396	4534	4671	4809	4946	5084	5221	5359	
59		5496	5634	5771	5909	6046	6184	6321	6458	6596	6733	137
3160		6871	7008	7146	7283	7420	7558	7695	7833	7970	8108	137
61		8245	8382	8520	8657	8794	8932	9069	9207	9344	9481	1-14
62		9619	9756	9893	0031	0168	0305	0443	0580	0717	0855	2-27
63	500	0992	1129	1266	1404	1541	1678	1816	1953	2090	2227	3-41
64		2365	2502	2639	2776	2914	3051	3188	3325	3463	3600	4-55
65		3737	3874	4012	4149	4286	4423	4560	4698	4835	4972	5-68
66		5109	5246	5383	5521	5658	5795	5932	6069	6206	6343	6-82
67		6481	6618	6755	6892	7029	7166	7303	7440	7577	7715	7-96
68		7852	7989	8126	8263	8400	8537	8674	8811	8948	9085	8-110
69		9222	9359	9496	9633	9770	9908	0045	0182	0319	0456	9-123
3170	501	0593	0730	0867	1004	1141	1278	1415	1551	1688	1825	
71		1962	2099	2236	2373	2510	2647	2784	2921	3058	3195	
72		3332	3469	3606	3742	3879	4016	4153	4290	4427	4564	
73		4701	4838	4974	5111	5248	5385	5522	5659	5796	5932	
74		6069	6206	6343	6480	6616	6753	6890	7027	7164	7300	
75		7437	7574	7711	7848	7984	8121	8258	8395	8531	8668	
76		8805	8942	9078	9215	9352	9489	9625	9762	9899	0035	
77	502	0172	0309	0445	0582	0719	0856	0992	1129	1266	1402	
78		1539	1676	1812	1949	2085	2222	2359	2495	2632	2769	
79		2905	3042	3178	3315	3452	3588	3725	3861	3998	4135	
3180		4271	4408	4544	4681	4817	4954	5090	5227	5364	5500	
81		5637	5773	5910	6046	6183	6319	6456	6592	6729	6865	
82		7002	7138	7275	7411	7548	7684	7821	7957	8093	8230	136
83		8366	8503	8639	8776	8912	9048	9185	9321	9458	9594	
84		9731	9867	0003	0140	0276	0412	0549	0685	0822	0958	
85	503	1094	1231	1367	1503	1640	1776	1912	2049	2185	2321	
86		2458	2594	2730	2867	3003	3139	3275	3412	3548	3684	
87		3821	3957	4093	4229	4366	4502	4638	4774	4911	5047	
88		5183	5319	5456	5592	5728	5864	6000	6137	6273	6409	
89		6545	6681	6818	6954	7090	7226	7362	7498	7634	7771	
3190		7907	8043	8179	8315	8451	8587	8724	8860	8996	9132	136
91		9268	9404	9540	9676	9812	9948	0085	0221	0357	0493	1-14
92	504	0629	0765	0901	1037	1173	1309	1445	1581	1717	1853	2-27
93		1989	2125	2261	2397	2533	2669	2805	2941	3077	3213	3-41
94		3349	3485	3621	3757	3893	4029	4165	4301	4437	4573	4-54
95		4709	4845	4980	5116	5252	5388	5524	5660	5796	5932	5-68
96		6068	6204	6339	6475	6611	6747	6883	7019	7155	7290	6-82
97		7426	7562	7698	7834	7970	8105	8241	8377	8513	8649	7-95
98		8785	8920	9056	9192	9328	9464	9599	9735	9871	0007	8-109
99	505	0142	0278	0414	0550	0685	0821	0957	1093	1228	1364	9-123
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Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
3200	505.1500	1635	1771	1907	2043	2178	2314	2450	2585	2721	136	136
01	2857	2992	3128	3264	3399	3535	3671	3806	3942	4078		1-14
02	4213	4349	4484	4620	4756	4891	5027	5163	5298	5434		2-27
03	5569	5705	5841	5976	6112	6247	6383	6518	6654	6789		3-41
04	6925	7061	7196	7332	7467	7603	7738	7874	8009	8145		4-54
05	8280	8416	8551	8687	8822	8958	9093	9229	9364	9500	135	5-68
06	9635	9771	9906	0042	0177	0312	0448	0583	0719	0854		6-82
07	506.0990	1125	1260	1396	1531	1667	1802	1937	2073	2208		7-95
08	2344	2479	2614	2750	2885	3020	3156	3291	3426	3562		8-109
09	3697	3832	3968	4103	4238	4374	4509	4644	4780	4915		9-122
3210	5050	5186	5321	5456	5591	5727	5862	5997	6132	6268		135
11	6403	6538	6674	6809	6944	7079	7214	7350	7485	7620		1-13
12	7755	7891	8026	8161	8296	8431	8567	8702	8837	8972		2-27
13	9107	9242	9378	9513	9648	9783	9918	0053	0188	0324		3-40
14	507.0459	0594	0729	0864	0999	1134	1269	1404	1540	1675		4-54
15	1810	1945	2080	2215	2350	2485	2620	2755	2890	3025		5-67
16	3160	3295	3430	3565	3700	3836	3971	4106	4241	4376		6-81
17	4511	4646	4781	4916	5051	5186	5320	5455	5590	5725		7-94
18	5860	5995	6130	6265	6400	6535	6670	6805	6940	7075		8-108
19	7210	7345	7480	7614	7749	7884	8019	8154	8289	8424		9-121
3220	8559	8694	8828	8963	9098	9233	9368	9503	9638	9772		
21	9907	0042	0177	0312	0446	0581	0716	0851	0986	1121		
22	508.1255	1390	1525	1660	1794	1929	2064	2199	2334	2468		
23	2603	2738	2873	3007	3142	3277	3411	3546	3681	3816		
24	3950	4085	4220	4354	4489	4624	4758	4893	5028	5162		
25	5297	5432	5566	5701	5836	5970	6105	6240	6374	6509		
26	6644	6778	6913	7047	7182	7317	7451	7586	7720	7855		
27	7990	8124	8259	8393	8528	8662	8797	8932	9066	9201		
28	9335	9470	9604	9739	9873	0008	0142	0277	0411	0545		
29	509.0650	0815	0949	1084	1218	1353	1487	1622	1756	1891	134	
3230	2025	2160	2294	2429	2563	2697	2832	2966	3101	3235		
31	3370	3504	3638	3773	3907	4042	4176	4310	4445	4579		
32	4714	4848	4982	5117	5251	5385	5520	5654	5788	5923		
33	6057	6191	6326	6460	6594	6729	6863	6997	7132	7266		
34	7400	7534	7669	7803	7937	8072	8206	8340	8474	8609		
35	8743	8877	9011	9146	9280	9414	9548	9682	9817	9951		
36	510.0085	0219	0353	0488	0622	0756	0890	1024	1159	1293		
37	1427	1561	1695	1829	1964	2098	2232	2366	2500	2634		
38	2768	2903	3037	3171	3305	3439	3573	3707	3841	3975		
39	4109	4243	4378	4512	4646	4780	4914	5048	5182	5316		
3240	5450	5584	5718	5852	5986	6120	6254	6388	6522	6656		134
41	6790	6924	7058	7192	7326	7460	7594	7728	7862	7996		1-13
42	8130	8264	8398	8532	8666	8800	8934	9068	9202	9335		2-27
43	9469	9603	9737	9871	0005	0139	0273	0407	0541	0674		3-40
44	511.0808	0942	1076	1210	1344	1478	1612	1745	1879	2013		4-54
45	2147	2281	2415	2548	2682	2816	2950	3084	3217	3351		5-67
46	3485	3619	3753	3886	4020	4154	4288	4422	4555	4689		6-80
47	4823	4957	5090	5224	5358	5491	5625	5759	5893	6026		7-94
48	6160	6294	6428	6561	6695	6829	6962	7096	7230	7363		8-107
49	7497	7631	7764	7898	8032	8165	8299	8433	8566	8700		9-121
Num.	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 32500. 511

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3250	11.8834	8967	9101	9234	9368	9502	9635	9769	9902	0036	134	
51	12.0170	0303	0437	0570	0704	0837	0971	1105	1238	1372		
52	1505	1639	1772	1906	2039	2173	2306	2440	2574	2707		
53	2841	2974	3108	3241	3375	3508	3641	3775	3908	4042	133	
54	4175	4309	4442	4576	4709	4843	4976	5110	5243	5376		
55	5510	5643	5777	5910	6044	6177	6310	6444	6577	6711		
56	6844	6977	7111	7244	7377	7511	7644	7777	7911	8044		
57	8178	8311	8444	8578	8711	8844	8978	9111	9244	9377		
58	9511	9644	9777	9911	0044	0177	0310	0444	0577	0710		
59	513.0844	0977	1110	1243	1377	1510	1643	1776	1910	2043		
3260	2176	2309	2442	2576	2709	2842	2975	3108	3242	3375		133
61	3508	3641	3774	3907	4041	4174	4307	4440	4573	4706	1-13	
62	4840	4973	5106	5239	5372	5505	5638	5771	5904	6038	2-27	
63	6171	6304	6437	6570	6703	6836	6969	7102	7235	7368	3-40	
64	7502	7635	7768	7901	8034	8167	8300	8433	8566	8699	4-13	
65	8832	8965	9098	9231	9364	9497	9630	9763	9896	0029	5-66	
66	514.0162	0295	0428	0561	0694	0827	0960	1092	1225	1358	6-80	
67	1491	1624	1757	1890	2023	2156	2289	2422	2555	2688	7-93	
68	2820	2953	3086	3219	3352	3485	3618	3751	3883	4016	8-106	
69	4149	4282	4415	4548	4681	4813	4946	5079	5212	5345	9-120	
3270	5478	5610	5743	5876	6009	6141	6274	6407	6540	6673		
71	6805	6938	7071	7204	7336	7469	7602	7735	7867	8000		
72	8133	8266	8398	8531	8664	8797	8929	9062	9195	9327		
73	9460	9593	9725	9858	9991	0123	0256	0389	0521	0654		
74	515.0787	0919	1052	1185	1317	1450	1583	1715	1848	1980		
75	2113	2246	2378	2511	2643	2776	2909	3041	3174	3306		
76	3439	3571	3704	3837	3969	4102	4234	4367	4499	4632		
77	4764	4897	5029	5162	5294	5427	5559	5692	5824	5957		
78	6089	6222	6354	6487	6619	6752	6884	7017	7149	7282	132	
79	7414	7547	7679	7811	7944	8076	8209	8341	8474	8606		
3280	8738	8871	9003	9136	9268	9400	9533	9665	9798	9930		132
81	516.0062	0195	0327	0459	0592	0724	0856	0989	1121	1253	1-13	
82	1386	1518	1650	1783	1915	2047	2180	2312	2444	2576	2-26	
83	2709	2841	2973	3106	3238	3370	3502	3635	3767	3899	3-40	
84	4031	4164	4296	4428	4560	4693	4825	4957	5089	5221	4-53	
85	5354	5486	5618	5750	5882	6015	6147	6279	6411	6543	5-66	
86	6676	6808	6940	7072	7204	7336	7468	7601	7733	7865	6-79	
87	7997	8129	8261	8393	8525	8658	8790	8922	9054	9186	7-92	
88	9318	9450	9582	9714	9846	9978	0110	0243	0375	0507	8-106	
89	517.0639	0771	0903	1035	1167	1299	1431	1563	1695	1827	9-119	
3290	1959	2091	2223	2355	2487	2619	2751	2883	3015	3147		
91	3279	3411	3543	3675	3807	3939	4070	4202	4334	4466		
92	4598	4730	4862	4994	5126	5258	5390	5522	5653	5785		
93	5917	6049	6181	6313	6445	6577	6708	6841	6972	7104		
94	7236	7368	7500	7631	7763	7895	8027	8159	8291	8422		
95	8554	8686	8818	8950	9081	9213	9345	9477	9608	9740		
96	9872	0004	0136	0267	0399	0531	0662	0794	0926	1058		
97	518.1189	1321	1453	1585	1716	1848	1980	2111	2243	2375		
98	2507	2638	2770	2901	3033	3165	3296	3428	3560	3691		
99	3823	3955	4086	4218	4350	4481	4613	4745	4876	5008		
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Num	0	1	2	3	4	5	6	7	8	9	D	Pts	
3300	518	5139	5271	5403	5534	5666	5797	5929	6060	6192	6324	132	13
01	6455	6587	6718	6850	6981	7113	7245	7376	7508	7639			1-13
02	7771	7902	8034	8165	8297	8428	8560	8691	8823	8954			2-26
03	9086	9217	9349	9480	9612	9743	9875	0006	0137	0269	131		3-40
04	519	0400	0532	0663	0795	0926	1058	1189	1320	1452	1583		4-53
05	1715	1846	1977	2109	2240	2372	2503	2634	2766	2897			5-66
06	3028	3160	3291	3423	3554	3685	3817	3948	4079	4211			6-79
07	4342	4474	4605	4736	4867	4998	5130	5261	5392	5524			7-92
08	5655	5786	5918	6049	6180	6311	6443	6574	6705	6836			8-106
09	6968	7099	7230	7361	7493	7624	7755	7886	8017	8149			9-119
3310	8280	8411	8542	8673	8805	8936	9067	9198	9329	9461			131
11	9592	9723	9854	9985	0116	0248	0379	0510	0641	0772			1-13
12	520	0903	1034	1165	1297	1428	1559	1690	1821	1952	2083		2-26
13	2214	2345	2476	2608	2739	2870	3001	3132	3263	3394			3-39
14	3525	3656	3787	3918	4049	4180	4311	4442	4573	4704			4-52
15	4835	4966	5097	5228	5359	5490	5621	5752	5883	6014			5-65
16	6145	6276	6407	6538	6669	6800	6931	7062	7193	7324			6-79
17	7455	7586	7717	7847	7978	8109	8240	8371	8502	8633			7-92
18	8764	8895	9026	9156	9287	9418	9549	9680	9811	9942			8-105
19	521	0073	0203	0334	0465	0596	0727	0858	0988	1119	1250		9-118
3320	1381	1512	1642	1773	1904	2035	2166	2296	2427	2558			
21	2689	2819	2950	3081	3212	3343	3473	3604	3735	3865			
22	3996	4127	4258	4388	4519	4650	4781	4911	5042	5173			
23	5303	5434	5565	5695	5826	5957	6087	6218	6349	6479			
24	6610	6741	6871	7001	7133	7263	7394	7525	7655	7786			
25	7916	8047	8178	8308	8439	8569	8700	8831	8961	9092			
26	9222	9353	9484	9614	9745	9875	0006	0136	0267	0397			
27	522	0528	0658	0789	0920	1050	1181	1311	1442	1572	1703		
28	1833	1964	2094	2225	2355	2486	2616	2747	2877	3007	130		
29	3138	3268	3399	3529	3660	3790	3921	4051	4181	4312			
3330	4442	4573	4703	4834	4964	5094	5225	5355	5486	5616			130
31	5746	5877	6007	6138	6268	6398	6528	6659	6789	6920			1-13
32	7050	7180	7311	7441	7571	7702	7832	7962	8092	8223			2-26
33	8353	8483	8614	8744	8874	9005	9135	9265	9395	9526			3-39
34	9656	9786	9916	0047	0177	0307	0437	0568	0698	0828			4-52
35	523	0958	1089	1219	1349	1479	1609	1740	1870	2000	2130		5-65
36	2269	2391	2521	2651	2781	2911	3041	3172	3302	3432			6-78
37	3562	3692	3822	3952	4083	4213	4343	4473	4603	4733			7-91
38	4863	4993	5123	5254	5384	5514	5644	5774	5904	6034			8-104
39	6164	6294	6424	6554	6684	6814	6944	7075	7205	7335			9-117
3340	7465	7595	7725	7855	7985	8115	8245	8375	8505	8635			
41	8765	8895	9025	9155	9285	9415	9545	9675	9805	9935			
42	524	0064	0194	0324	0454	0584	0714	0844	0974	1104	1234		
43	1364	1494	1624	1753	1883	2013	2143	2273	2403	2533			
44	2663	2793	2922	3052	3182	3312	3442	3572	3701	3831			
45	3961	4091	4221	4351	4480	4610	4740	4870	5000	5130			
46	5259	5389	5519	5649	5778	5908	6038	6168	6298	6427			
47	6557	6687	6817	6946	7076	7206	7336	7465	7595	7725			
48	7854	7984	8114	8244	8373	8503	8633	8762	8892	9022			
49	9151	9281	9411	9540	9670	9800	9929	0059	0189	0318			
Num	0	1	2	3	4	5	6	7	8	9	D	Pro	

TO 101000.

N. 33500. L. 52

Num	0	1	2	3	4	5	6	7	8	9	D	Pt.
3350	525.0448	0578	0707	0837	0967	1090	1226	1355	1485	1615	130	
51	1744	1874	2003	2133	2263	239	2522	2651	2781	2910		
52	3040	3170	3299	3429	3558	3688	3817	3947	4076	4206		
53	4336	4465	4595	4724	4854	4983	5113	5242	5372	5501		
54	5631	5760	5889	6019	6148	6278	6407	6537	6666	6796	129	
55	6925	7055	7184	7314	7443	7572	7702	7831	7961	8090		
56	8220	8349	8478	8608	8737	8866	8996	9125	9255	9384		
57	9513	9643	9772	9901	0031	0160	0290	0419	0548	0678		
58	526.0807	0936	1066	1195	1324	1453	1583	1712	1841	1971		
59	2100	2229	2359	2488	2617	2746	2876	3005	3134	3263		
3360	3393	3522	3651	3780	3910	4039	4168	4297	4427	4556		12
61	4685	4814	4943	5073	5202	5331	5460	5589	5719	5848		1-1
62	5977	6106	6235	6365	6494	6623	6752	6881	7010	7139		2-2
63	7269	7398	7527	7656	7785	7914	8043	8173	8302	8431		3-3
64	8560	8689	8818	8947	9076	9205	9334	9463	9593	9722		4-5
65	9851	9980	0109	0238	0367	0496	0625	0754	0883	1012		5-6
66	527.1141	1270	1399	1528	1657	1786	1915	2044	2173	2302		6-7
67	2431	2560	2689	2818	2947	3076	3205	3334	3463	3592		7-9
68	3721	3850	3979	4108	4237	4365	4494	4623	4752	4881		8-10
69	5010	5139	5268	5397	5526	5655	5783	5912	6041	6170		9-11
3370	6299	6428	6557	6686	6814	6943	7072	7201	7330	7459		
71	7588	7716	7845	7974	8103	8232	8360	8489	8618	8747		
72	8876	9004	9133	9262	9391	9520	9648	9777	9906	0035		
73	528.0163	0292	0421	0550	0678	0807	0936	1065	1193	1322		
74	1451	1579	1708	1837	1966	2094	2223	2352	2480	2609		
75	2738	2866	2995	3124	3252	3381	3510	3638	3767	3896		
76	4024	4153	4282	4410	4539	4667	4796	4925	5053	5182		
77	5311	5439	5568	5695	5825	5954	6082	6211	6339	6468		
78	6596	6725	6854	6982	7111	7239	7368	7496	7625	7753		
79	7882	8010	8139	8267	8396	8524	8653	8781	8910	9038		
3380	9167	9295	9424	9552	9681	9809	9938	0066	0195	0323	128	
81	529.0452	0580	0709	0837	0965	1094	1222	1351	1479	1608		
82	1736	1864	1993	2121	2250	2378	2506	2635	2763	2892		
83	3020	3148	3277	3405	3533	3662	3790	3918	4046	4175		
84	4304	4432	4560	4688	4817	4945	5073	5202	5330	5458		
85	5587	5715	5843	5972	6100	6228	6356	6485	6613	6741		
86	6870	6998	7126	7254	7383	7511	7639	7767	7895	8024		
87	8152	8280	8408	8537	8665	8793	8921	9049	9178	9306		
88	9431	9562	9690	9818	9947	0075	0203	0331	0459	0587		
89	530.0716	0844	0972	1100	1228	1356	1484	1613	1741	1869		
3390	1997	2125	2253	2381	2509	2637	2766	2894	3022	3150		128
91	3278	3406	3534	3662	3790	3918	4046	4174	4302	4430		1-13
92	4558	4686	4814	4942	5070	5199	5327	5455	5583	5711		2-26
93	5839	5967	6095	6223	6351	6478	6606	6734	6862	6990		3-38
94	7118	7246	7374	7502	7630	7758	7886	8014	8142	8270		4-51
95	8398	8526	8654	8781	8909	9037	9165	9293	9421	9549		5-64
96	9677	9805	9933	0060	0188	0316	0444	0572	0700	0828		6-77
97	531.0955	1083	1211	1339	1467	1595	1722	1850	1978	2106		7-90
98	2234	2361	2489	2617	2745	2873	3000	3128	3256	3384		8-102
99	3512	3639	3767	3895	4023	4150	4278	4406	4534	4661		9-115
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 34000. L. 531

Logarithms

Nam	0	1	2	3	4	5	6	7	8	9	D	Pts.
3400	531.4789	4917	5045	5172	5300	5428	5555	5683	5811	5939	128	128
01	6066	6194	6322	6449	6577	6705	6832	6960	7088	7215		1-13
02	7343	7471	7598	7726	7854	7981	8109	8237	8364	8492		2-26
03	8619	8747	8875	9002	9130	9257	9385	9513	9640	9768		3-38
04	9896	0023	0151	0278	0406	0533	0661	0788	0916	1044		4-51
05	532.1171	1299	1426	1554	1681	1809	1936	2064	2191	2319		5-64
06	2446	2574	2701	2829	2956	3084	3211	3339	3466	3594	127	6-77
07	3721	3849	3976	4104	4231	4359	4486	4613	4741	4868		7-90
08	4996	5123	5251	5378	5506	5633	5760	5888	6015	6143		8-102
09	6270	6397	6525	6652	6780	6907	7034	7162	7289	7416		9-115
3410	7544	7671	7798	7926	8053	8180	8308	8435	8562	8690		127
11	8817	8944	9072	9199	9326	9454	9581	9708	9836	9963		1-13
12	533.0090	0217	0345	0472	0599	0727	0854	0981	1108	1236		2-25
13	1363	1490	1617	1745	1872	1999	2126	2253	2381	2508		3-38
14	2635	2762	2890	3017	3144	3271	3398	3525	3653	3780		4-51
15	3907	4034	4161	4289	4416	4543	4670	4797	4924	5051		5-63
16	5179	5306	5433	5560	5687	5814	5941	6068	6196	6323		6-76
17	6450	6577	6704	6831	6958	7085	7212	7339	7466	7593		7-89
18	7721	7848	7975	8102	8229	8356	8483	8610	8737	8864		8-102
19	8991	9118	9245	9372	9499	9626	9753	9880	0007	0134		9-114
3420	534.0261	0388	0515	0642	0769	0896	1023	1150	1277	1404		
21	1531	1658	1785	1912	2038	2165	2292	2419	2546	2673		
22	2800	2927	3054	3181	3308	3435	3561	3688	3815	3942		
23	4069	4196	4323	4450	4576	4703	4830	4957	5084	5211		
24	5338	5464	5591	5718	5845	5972	6098	6225	6352	6479		
25	6606	6733	6859	6986	7113	7240	7366	7493	7620	7757		
26	7874	8000	8127	8254	8381	8507	8634	8761	8888	9014		
27	9141	9268	9394	9521	9648	9775	9901	0028	0155	0281		
28	535.0408	0535	0661	0788	0915	1041	1168	1295	1421	1548		
29	1675	1801	1928	2055	2181	2308	2435	2561	2688	2815		
3430	2941	3068	3194	3321	3448	3574	3701	3827	3954	4081		
31	4207	4334	4460	4587	4713	4840	4967	5093	5220	5346		
32	5473	5599	5726	5852	5979	6105	6232	6358	6485	6611		
33	6738	6864	6991	7117	7244	7370	7497	7623	7750	7876	126	
34	8003	8129	8256	8382	8509	8635	8762	8888	9014	9141		
35	9267	9394	9520	9647	9773	9899	0026	0152	0279	0405		
36	536.0532	0658	0784	0911	1037	1163	1290	1416	1543	1669		
37	1795	1922	2048	2174	2301	2427	2553	2680	2806	2932		
38	3059	3185	3311	3438	3564	3690	3817	3943	4069	4195		
39	4322	4448	4574	4701	4827	4953	5079	5206	5332	5458		
3440	5584	5711	5837	5963	6089	6216	6342	6468	6594	6720		126
41	6847	6973	7099	7225	7351	7478	7604	7730	7856	7982		1-13
42	8109	8235	8361	8487	8613	8739	8865	8991	9118	9244		2-25
43	9370	9496	9622	9749	9875	0001	0127	0253	0379	0505		3-38
44	537.0631	0757	0884	1010	1136	1262	1388	1514	1640	1766		4-50
45	1892	2018	2144	2270	2396	2522	2649	2775	2901	3027		5-63
46	3153	3279	3405	3531	3657	3783	3909	4035	4161	4287		6-76
47	4413	4539	4665	4791	4917	5043	5169	5295	5421	5547		7-88
48	5673	5798	5924	6050	6176	6302	6428	6554	6680	6806		8-101
49	6932	7058	7184	7310	7436	7561	7687	7813	7939	8065		9-113
Nam	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 10100.

N. 34500 L537

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3450	537.8191	8317	8443	8565	8694	8820	8946	9072	9198	9324	126	
51	9450	9575	9701	9827	9953	0079	0205	0330	0456	0582		
52	538.0708	0834	0959	1085	1211	1337	1463	1588	1714	1840		
53	1966	2091	2217	2343	2465	2595	2720	2846	2972	3097		
54	3223	3349	3475	3600	3726	3852	3978	4103	4229	4355		
55	4481	4606	4732	4858	4983	5109	5235	5360	5486	5612		
56	5737	5863	5989	6114	6240	6366	6491	6617	6742	6868		
57	6994	7119	7245	7371	7496	7622	7747	7873	7999	8124		
58	8250	8375	8501	8627	8752	8878	9003	9129	9254	9380		
59	9506	9631	9757	9882	0008	0133	0259	0384	0510	0635		
3460	539.0761	0886	1012	1137	1263	1388	1514	1639	1765	1890		
61	2016	2141	2267	2392	2518	2643	2769	2894	3020	3145	125	
62	3271	3396	3521	3647	3772	3898	4023	4149	4274	4399		
63	4525	4650	4776	4901	5026	5152	5277	5403	5528	5653		
64	5779	5904	6029	6155	6280	6406	6531	6656	6782	6907		
65	7032	7158	7283	7408	7534	7659	7784	7910	8035	8160		
66	8286	8411	8536	8661	8787	8912	9037	9163	9288	9413		
67	9538	9664	9789	9914	0039	0165	0290	0415	0540	0666		
68	540.0791	0916	1041	1166	1292	1417	1542	1667	1793	1918		
69	2043	2168	2293	2418	2544	2669	2794	2919	3044	3169		
3470	3295	3420	3545	3670	3795	3920	4046	4171	4296	4421		125
71	4546	4671	4796	4921	5046	5172	5297	5422	5547	5672		1-12
72	5797	5922	6047	6172	6297	6422	6548	6673	6898	6923		2-25
73	7048	7173	7298	7423	7548	7673	7798	7923	8048	8173		3-37
74	8298	8423	8548	8673	8798	8923	9048	9173	9298	9423		4-50
75	9548	9673	9798	9923	0048	0173	0298	0423	0548	0673		5-62
76	541.0798	0923	1048	1173	1297	1422	1547	1672	1797	1922		6-75
77	2047	2172	2297	2422	2546	2671	2796	2921	3046	3171		7-87
78	3296	3421	3545	3670	3795	3920	4045	4170	4295	4419		8-100
79	4544	4669	4794	4919	5044	5168	5293	5418	5543	5668		9-112
3480	5792	5917	6042	6167	6292	6416	6541	6666	6791	6915		
81	7040	7165	7290	7414	7539	7664	7789	7913	8038	8163		
82	8288	8412	8537	8662	8786	8911	9036	9161	9285	9410		
83	9535	9659	9784	9909	0033	0158	0283	0407	0532	0657		
84	542.0781	0906	1031	1155	1280	1405	1529	1654	1779	1903		
85	2028	2152	2277	2402	2526	2651	2775	2900	3025	3149		
86	3274	3398	3523	3648	3772	3897	4021	4146	4270	4395		
87	4519	4644	4769	4893	5018	5142	5267	5391	5516	5640		
88	5765	5889	6014	6138	6263	6387	6512	6636	6761	6885	124	
89	7010	7134	7259	7383	7508	7632	7756	7881	8005	8130		
3490	8254	8379	8503	8628	8752	8876	9001	9125	9250	9374		124
91	9498	9623	9747	9872	9996	0120	0245	0369	0494	0618		1-12
92	543.0742	0867	0991	1115	1240	1364	1488	1613	1737	1861		2-25
93	1986	2110	2234	2359	2483	2607	2732	2856	2980	3105		3-37
94	3229	3353	3478	3602	3726	3850	3975	4099	4223	4347		4-50
95	4472	4596	4720	4845	4969	5093	5217	5342	5466	5590		5-62
96	5714	5838	5963	6087	6211	6335	6459	6584	6708	6832		6-74
97	6956	7080	7205	7329	7453	7577	7701	7826	7950	8074		7-87
98	8198	8322	8446	8570	8695	8819	8943	9067	9191	9315		8-99
99	9439	9563	9688	9812	9936	0060	0184	0308	0432	0556		9-112
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 35000. L. 544.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3500	544.0680	0804	0929	1053	1177	1301	1425	1549	1673	1797	124	124
01	1921	2045	2169	2293	2417	2541	2665	2789	2913	3037		1-12
02	3161	3285	3409	3533	3657	3781	3905	4029	4153	4277		2-25
03	4401	4525	4649	4773	4897	5021	5145	5269	5393	5517		3-37
04	5641	5765	5889	6013	6137	6261	6385	6508	6632	6756		4-50
05	6880	7004	7128	7252	7376	7500	7624	7747	7871	7995		5-62
06	8119	8243	8367	8491	8615	8738	8862	8986	9110	9234		6-74
07	9358	9481	9605	9729	9853	9977	0101	0224	0348	0472		7-87
08	545.0596	0720	0843	0967	1091	1215	1339	1462	1586	1710		8-99
09	1834	1957	2081	2205	2329	2452	2576	2700	2824	2947		9-112
3510	3071	3195	3319	3442	3566	3690	3813	3937	4061	4185		
11	4308	4432	4556	4679	4803	4927	5050	5174	5298	5421		
12	5545	5669	5792	5916	6040	6163	6287	6411	6534	6658		
13	6781	6905	7029	7152	7276	7400	7523	7647	7770	7894		
14	8018	8141	8265	8388	8512	8635	8759	8883	9006	9130		
15	9253	9377	9500	9624	9747	9871	9995	0118	0242	0365		
16	546.0489	0612	0736	0859	0983	1106	1230	1353	1477	1600		
17	1724	1847	1971	2094	2218	2341	2464	2588	2711	2835	123	
18	2958	3082	3205	3329	3452	3576	3699	3822	3946	4069		
19	4193	4316	4439	4563	4686	4810	4933	5056	5180	5303		
3520	5427	5550	5673	5797	5920	6043	6167	6290	6414	6537		123
21	6660	6784	6906	7030	7154	7277	7400	7524	7647	7770		1-12
22	7894	8017	8140	8263	8387	8510	8633	8756	8880	9003		2-25
23	9126	9250	9373	9496	9619	9743	9866	9989	0112	0236		3-37
24	547.0355	0482	0605	0729	0852	0975	1098	1222	1345	1468		4-49
25	1591	1714	1838	1961	2084	2207	2330	2454	2577	2700		5-61
26	2823	2946	3069	3193	3316	3439	3562	3685	3808	3931		6-74
27	4055	4178	4301	4424	4547	4670	4793	4916	5040	5163		7-86
28	5286	5409	5532	5655	5778	5901	6024	6147	6270	6393		8-98
29	6517	6640	6763	6886	7009	7132	7255	7378	7501	7624		9-111
3530	7747	7870	7993	8116	8239	8362	8485	8608	8731	8854		
31	8977	9100	9223	9346	9469	9592	9715	9838	9961	0084		
32	548.0207	0330	0453	0576	0699	0822	0945	1068	1190	1313		
33	1436	1559	1682	1805	1928	2051	2174	2297	2420	2543		
34	2665	2788	2911	3034	3157	3280	3403	3526	3648	3771		
35	3894	4017	4140	4263	4386	4508	4631	4754	4877	5000		
36	5123	5245	5368	5491	5614	5737	5859	5982	6105	6228		
37	6351	6473	6596	6719	6842	6964	7087	7210	7333	7455		
38	7573	7701	7824	7946	8069	8192	8315	8437	8560	8683		
39	8806	8928	9051	9174	9296	9419	9542	9665	9787	9910		
3540	549.0033	0155	0278	0401	0523	0646	0769	0891	1014	1137		
41	1259	1382	1505	1627	1750	1872	1995	2118	2240	2363		
42	2486	2608	2731	2853	2976	3099	3221	3344	3466	3589		
43	3712	3834	3957	4079	4202	4324	4447	4569	4692	4815		
44	4937	5060	5182	5305	5427	5550	5672	5795	5917	6040		
45	6162	6285	6407	6530	6652	6775	6897	7020	7142	7265	122	
46	7387	7510	7632	7755	7877	8000	8122	8244	8367	8489		
47	8612	8734	8857	8979	9102	9224	9346	9469	9591	9714		
48	9836	9958	0081	0203	0326	0448	0570	0693	0815	0938		
49	550.1060	1182	1305	1427	1549	1672	1794	1916	2039	2161		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 35500. L. 550

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3550	550.2284	2406	2528	2650	2773	2895	3017	3140	3262	3384	122	122
51	3507	3629	3751	3874	3996	4118	4240	4363	4485	4607	1	12
52	4730	4852	4974	5096	5219	5341	5463	5585	5708	5830	2	24
53	5952	6074	6196	6319	6441	6563	6685	6808	6930	7052	3	37
54	7174	7296	7419	7541	7663	7785	7907	8029	8152	8274	4	49
55	8396	8518	8640	8762	8885	9007	9129	9251	9373	9495	5	61
56	9618	9740	9862	9984	1006	0228	0350	0472	0594	0717	5	73
57	551.0839	0961	1083	1205	1327	1449	1571	1693	1815	1937	7	85
58	2059	2181	2304	2426	2548	2670	2792	2914	3036	3158	8	98
59	3280	3402	3524	3646	3768	3890	4012	4134	4256	4378	9	110
3560	4500	4622	4744	4866	4988	5110	5232	5354	5476	5598		
61	5720	5842	5964	6086	6207	6329	6451	6573	6695	6817		
62	6939	7061	7183	7305	7427	7549	7671	7792	7914	8036		
63	8158	8280	8402	8524	8646	8768	8889	9011	9133	9255		
64	9377	9499	9621	9742	9864	9986	0108	0230	0352	0473		
65	552.0595	0717	0839	0961	1083	1204	1326	1448	1570	1692		
66	1812	1935	2057	2179	2300	2422	2544	2666	2788	2909		
67	3031	3153	3275	3396	3518	3640	3762	3883	4005	4127		
68	4248	4370	4492	4614	4735	4857	4979	5100	5222	5344		
69	5465	5587	5709	5830	5952	6074	6195	6317	6439	6560		
3570	6682	6804	6925	7047	7169	7290	7412	7534	7655	7777		
71	7899	8020	8142	8263	8385	8506	8628	8750	8871	8993		
72	9115	9236	9358	9479	9601	9722	9844	9965	0087	0209		
73	553.0330	0452	0573	0695	0816	0938	1059	1181	1302	1424		
74	1545	1667	1788	1910	2031	2153	2274	2396	2517	2639	121	
75	2760	2882	3003	3124	3246	3368	3489	3611	3732	3854		
76	3975	4096	4218	4339	4461	4582	4704	4825	4947	5068		
77	5189	5311	5432	5554	5675	5796	5918	6039	6161	6282		
78	6403	6525	6646	6767	6889	7010	7132	7253	7374	7496		
79	7617	7738	7860	7981	8102	8224	8345	8466	8588	8709		
3580	8830	8952	9073	9194	9315	9437	9558	9679	9801	9922		121
81	554.0043	0164	0286	0407	0528	0650	0771	0892	1013	1135	1	12
82	1256	1377	1498	1619	1741	1862	1983	2104	2226	2347	2	24
83	2468	2589	2710	2832	2953	3074	3195	3316	3438	3559	3	36
84	3680	3801	3922	4043	4165	4286	4407	4528	4649	4770	4	48
85	4892	5013	5134	5255	5376	5497	5618	5739	5861	5982	5	60
86	6103	6224	6345	6466	6587	6708	6829	6950	7071	7193	6	73
87	7314	7435	7556	7677	7798	7919	8040	8161	8282	8403	7	85
88	8524	8645	8766	8887	9008	9129	9250	9371	9493	9614	8	97
89	9735	9856	9977	0098	0219	0340	0461	0582	0702	0823	9	09
3590	555.0244	1065	1186	1307	1428	1549	1670	1791	1912	2033		
91	2154	2275	2396	2517	2638	2759	2880	3000	3121	3242		
92	3363	3484	3605	3726	3847	3968	4089	4209	4330	4451		
93	4572	4693	4814	4935	5056	5176	5297	5418	5539	5660		
94	5781	5902	6022	6143	6264	6385	6506	6626	6747	6868		
95	6989	7110	7231	7351	7472	7593	7714	7834	7955	8076		
96	8197	8318	8438	8559	8680	8801	8921	9042	9163	9284		
97	9404	9525	9646	9767	9887	0008	0129	0249	0370	0491		
98	556.0612	0732	0853	0974	1094	1215	1336	1456	1577	1698		
99	1818	1939	2060	2180	2301	2422	2542	2663	2784	2904		
Num	0	1	2	3	4	5	6	7	8	9	D	Bro

N. 36000 L. 556.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
3600	556.3025	3146	3266	3387	3507	3628	3749	3869	3990	4111	121	121
01	4231	4352	4472	4593	4714	4834	4955	5075	5196	5316		1-12
02	5437	5558	5678	5799	5919	6040	6161	6281	6401	6522		2-24
03	6643	6763	6884	7004	7125	7245	7366	7486	7607	7727		3-36
04	7848	7968	8089	8209	8330	8450	8571	8691	8812	8932	120	4-48
05	9053	9173	9294	9414	9534	9655	9775	9896	0016	0137		5-60
06	557.0257	0378	0498	0618	0739	0859	0980	1100	1221	1341		6-73
07	1461	1582	1702	1823	1943	2063	2184	2304	2424	2545		7-85
08	2665	2786	2906	3026	3147	3267	3387	3508	3628	3748		8-97
09	3869	3989	4109	4230	4350	4470	4591	4711	4831	4952		9-109
3610	5072	5192	5313	5434	5553	5673	5794	5914	6034	6155		
11	6275	6395	6515	6636	6756	6876	6996	7117	7237	7357		
12	7477	7598	7718	7838	7958	8079	8199	8319	8439	8559		
13	8680	8800	8920	9040	9160	9281	9401	9521	9641	9761		
14	9881	0002	0122	0242	0362	0482	0602	0723	0843	0963		
15	558.1083	1203	1323	1443	1563	1684	1804	1924	2044	2164		
16	2284	2404	2524	2644	2765	2885	3005	3125	3245	3365		
17	3485	3605	3725	3845	3965	4085	4205	4325	4445	4566		
18	4686	4806	4926	5046	5166	5286	5406	5526	5646	5766		
19	5886	6006	6126	6246	6366	6486	6606	6726	6846	6966		
3620	7086	7206	7326	7446	7566	7685	7805	7925	8045	8165		120
21	8285	8405	8525	8645	8765	8885	9005	9125	9245	9364		1-12
22	9484	9604	9724	9844	9964	0084	0204	0324	0443	0563		2-24
23	559.0683	0803	0923	1043	1163	1283	1402	1522	1642	1762		3-36
24	1882	2002	2121	2241	2361	2481	2601	2721	2840	2966		4-48
25	3080	3200	3320	3439	3559	3679	3799	3919	4038	4158		5-60
26	4278	4398	4517	4637	4757	4877	4996	5116	5236	5356		6-72
27	5476	5595	5715	5835	5954	6074	6194	6314	6433	6553		7-84
28	6673	6792	6912	7032	7151	7271	7391	7511	7630	7750		8-96
29	7870	7989	8109	8229	8348	8468	8588	8707	8827	8947		9-108
3630	9066	9186	9305	9425	9545	9664	9784	9904	0023	0143		
31	560.0262	0382	0502	0621	0741	0860	0980	1100	1219	1339		
32	1458	1578	1697	1817	1937	2056	2176	2295	2415	2534		
33	2654	2773	2893	3012	3132	3252	3371	3491	3610	3730		
34	3849	3969	4088	4208	4327	4447	4566	4686	4805	4925	119	
35	5044	5164	5283	5402	5522	5641	5761	5880	6000	6119		
36	6239	6358	6478	6597	6716	6836	6955	7075	7194	7313		
37	7433	7552	7672	7791	7911	8030	8149	8269	8388	8507		
38	8627	8746	8866	8985	9104	9224	9343	9462	9582	9701		
39	9821	9940	0059	0178	0298	0417	0536	0656	0775	0894		
3640	561.1014	1133	1252	1372	1491	1610	1730	1849	1968	2087		119
41	2207	2326	2445	2565	2684	2803	2922	3042	3161	3280		1-12
42	3399	3519	3638	3757	3876	3996	4115	4234	4353	4472		2-24
43	4592	4711	4830	4949	5068	5188	5307	5426	5545	5664		3-36
44	5784	5903	6022	6141	6260	6379	6499	6618	6737	6856		4-48
45	6975	7094	7214	7333	7451	7571	7690	7809	7928	8047		5-59
46	8167	8286	8405	8524	8643	8762	8881	9000	9119	9238		6-71
47	9358	9477	9596	9715	9834	9953	0072	0191	0310	0429		7-83
48	562.0548	0667	0786	0905	1024	1143	1262	1381	1500	1620		8-95
49	1739	1858	1977	2096	2215	2334	2453	2572	2691	2810		9-107
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 36500. 562

Num	0	1	2	3	4	5	6	7	8	9	D Pts.	
3650	562	2929	3048	3167	3285	3405	3523	3642	3761	3880	3999	119
51	4118	4237	4356	4475	4594	4713	4832	4951	5070	5189		
52	5308	5427	5545	5664	5783	5902	6021	6140	6259	6378		
53	6497	6616	6734	6853	6972	7091	7210	7329	7448	7566		
54	7685	7804	7923	8042	8161	8280	8398	8517	8636	8755		
55	8874	8993	9111	9230	9349	9468	9587	9705	9824	9943		
56	563	0062	0181	0299	0418	0537	0656	0774	0893	1012	1131	
57	1250	1368	1487	1606	1725	1843	1962	2081	2199	2318		
58	2437	2556	2674	2793	2912	3030	3149	3268	3387	3505		
59	3624	3743	3861	3980	4099	4217	4336	4455	4573	4692		
3660	4811	4929	5048	5167	5285	5404	5523	5641	5760	5879		
61	5997	6116	6234	6353	6472	6590	6709	6828	6946	7065		
62	7183	7302	7420	7539	7658	7776	7895	8013	8132	8251		
63	8369	8488	8606	8725	8843	8962	9080	9199	9317	9436		
64	9555	9673	9792	9910	0029	0147	0266	0384	0503	0621		
65	564	0740	0858	0977	1095	1214	1332	1451	1569	1688	1806	118
66	1925	2043	2161	2280	2398	2517	2635	2754	2872	2991		
67	3109	3227	3346	3464	3583	3701	3820	3938	4056	4175		
68	4293	4412	4530	4648	4767	4885	5004	5122	5240	5359		
69	5477	5595	5714	5832	5951	6069	6187	6306	6424	6542		
3670	6661	6779	6897	7016	7134	7252	7371	7489	7607	7725		118
71	7844	7962	8080	8199	8317	8435	8554	8672	8790	8908		1-12
72	9027	9145	9263	9381	9500	9618	9736	9855	9973	0091		2-24
73	565	0209	0327	0446	0564	0682	0800	0919	1037	1155	1273	3-35
74	1392	1510	1628	1746	1864	1982	2101	2219	2337	2455		4-47
75	2573	2692	2810	2928	3046	3164	3282	3401	3519	3637		5-59
76	3755	3873	3991	4110	4228	4346	4464	4582	4700	4818		6-71
77	4936	5054	5172	5291	5409	5527	5645	5763	5881	5999		7-83
78	6117	6235	6353	6471	6589	6708	6826	6944	7062	7180		8-94
79	7298	7416	7534	7652	7770	7888	8006	8124	8242	8360		9-106
3680	8478	8596	8714	8832	8950	9068	9186	9304	9422	9540		
81	9658	9776	9894	0012	0130	0248	0366	0484	0602	0720		
82	566	0838	0956	1074	1192	1310	1428	1545	1663	1781	1899	
83	2017	2135	2253	2371	2489	2607	2725	2842	2960	3078		
84	3196	3314	3432	3550	3668	3786	3903	4021	4139	4257		
85	4375	4493	4611	4728	4846	4964	5082	5200	5318	5435		
86	5553	5671	5789	5907	6025	6142	6260	6378	6496	6614		
87	6731	6849	6967	7085	7204	7320	7438	7556	7674	7791		
88	7909	8027	8145	8262	8380	8498	8616	8733	8851	8969		
89	9087	9204	9322	9440	9557	9675	9793	9911	0028	0146		
3690	567	0264	0381	0499	0617	0734	0852	0970	1087	1205	1323	117
91	1440	1558	1676	1793	1911	2029	2146	2264	2382	2499		1-12
92	2617	2735	2852	2970	3087	3205	3323	3440	3558	3675		2-23
93	3793	3911	4028	4146	4263	4381	4499	4616	4734	4851		3-35
94	4965	5086	5204	5322	5439	5557	5674	5792	5910	6027		4-47
95	6144	6262	6379	6497	6614	6732	6850	6967	7085	7202	117	5-58
96	7320	7437	7555	7672	7790	7907	8025	8142	8260	8377		6-70
97	8495	8612	8729	8847	8964	9082	9199	9317	9434	9552		7-82
98	9669	9786	9904	0021	0139	0256	0374	0491	0608	0726		8-94
99	568	0843	0961	1078	1195	1313	1430	1548	1665	1782	1900	9-105
Num	0	1	2	3	4	5	6	7	8	9	D Pro.	

N. 37000. L 568.

Logarithms

Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
3700	568.2017	2135	2252	2369	2487	2604	2721	2839	2956	3073	117	117
01	3191	3308	3425	3543	3660	3777	3895	4012	4129	4247		1-12
02	4364	4481	4599	4716	4833	4951	5068	5185	5303	5420		2-23
03	5537	5654	5772	5889	6006	6123	6241	6358	6475	6592		3-35
04	6710	6827	6944	7061	7179	7296	7413	7530	7648	7765		4-47
05	7882	7999	8117	8234	8351	8468	8585	8703	8820	8937		5-58
06	9054	9171	9288	9406	9523	9640	9757	9874	9991	0109		6-70
07	569.0226	0343	0460	0577	0694	0812	0929	1046	1163	1280		7-82
08	1397	1514	1631	1749	1866	1983	2100	2217	2334	2451		8-94
09	2568	2685	2802	2920	3037	3154	3271	3388	3505	3622		9-105
3710	3739	3856	3973	4090	4207	4324	4441	4558	4675	4792		
11	4910	5027	5144	5261	5378	5495	5612	5729	5846	5963		
12	6080	6197	6314	6431	6548	6665	6782	6899	7016	7132		
13	7249	7366	7483	7600	7717	7834	7951	8068	8185	8302		
14	8419	8536	8653	8770	8887	9004	9120	9237	9354	9471		
15	9588	9705	9822	9939	0056	0173	0289	0406	0523	0640		
16	570.0757	0874	0991	1108	1224	1341	1458	1575	1692	1809		
17	1926	2042	2159	2276	2393	2510	2627	2743	2860	2977		
18	3094	3211	3327	3444	3561	3678	3795	3911	4028	4145		
19	4262	4379	4495	4612	4729	4846	4962	5079	5196	5313		
3720	5429	5546	5663	5780	5895	6013	6130	6246	6363	6480		
21	6597	6713	6830	6947	7063	7180	7297	7414	7530	7647		
22	7764	7880	7997	8114	8230	8347	8464	8580	8697	8814		
23	8930	9047	9164	9280	9397	9514	9630	9747	9863	9980		
24	571.0097	0213	0330	0447	0563	0680	0796	0913	1030	1146		
25	1263	1379	1496	1612	1729	1846	1962	2079	2195	2312		
26	2429	2545	2662	2778	2895	3011	3128	3244	3361	3477		
27	3594	3710	3827	3943	4060	4176	4293	4409	4526	4642		
28	4759	4875	4992	5108	5225	5341	5458	5574	5691	5807	116	
29	5924	6040	6157	6273	6390	6506	6623	6739	6855	6972		
3730	7088	7205	7321	7438	7554	7670	7787	7903	8020	8136		116
31	8252	8369	8485	8602	8718	8834	8951	9067	9184	9300		1-12
32	9416	9533	9649	9765	9882	9998	0114	0231	0347	0464		2-23
33	572.0580	0696	0813	0929	1045	1162	1278	1394	1510	1627		3-35
34	1743	1859	1976	2092	2208	2325	2441	2557	2673	2790		4-46
35	2906	3022	3139	3255	3371	3487	3604	3720	3836	3952		5-58
36	4069	4185	4301	4417	4534	4650	4766	4882	4998	5115		5-70
37	5231	5347	5463	5580	5696	5812	5928	6044	6161	6277		7-81
38	6393	6509	6625	6741	6858	6974	7090	7206	7322	7438		8-93
39	7555	7671	7787	7903	8019	8135	8251	8368	8484	8600		9-104
3740	8716	8832	8948	9064	9180	9297	9413	9529	9645	9761		
41	9877	9993	0109	0225	0341	0457	0574	0690	0806	0922		
42	573.1038	1154	1270	1386	1502	1618	1734	1850	1966	2082		
43	2198	2314	2430	2546	2662	2778	2894	3010	3126	3242		
44	3358	3474	3590	3706	3822	3938	4054	4170	4286	4402		
45	4518	4634	4750	4866	4982	5098	5214	5330	5446	5562		
46	5678	5794	5910	6025	6141	6257	6373	6489	6605	6721		
47	6837	6953	7069	7185	7300	7416	7532	7648	7764	7880		
48	7996	8112	8228	8343	8459	8575	8691	8807	8923	9039		
49	9154	9270	9386	9502	9618	9734	9849	9965	0081	0197		
Num.	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 37500. L. 574

Num	0	1	2	3	4	5	6	7	8	9	D	Pt
3750	574.0313	0428	0544	0660	0776	0892	1007	1123	1239	1355		
51	1471	1586	1702	1818	1934	2049	2165	2281	2397	2512		
52	2628	2744	2860	2975	3091	3207	3323	3438	3554	3670		
53	3786	3901	4017	4133	4248	4364	4480	4596	4711	4827		
54	4943	5058	5174	5290	5405	5521	5637	5752	5868	5984		
55	6099	6215	6331	6446	6562	6678	6793	6909	7025	7140		
56	7256	7371	7487	7603	7718	7834	7949	8065	8181	8296		
57	8412	8527	8643	8759	8874	8990	9105	9221	9337	9452		
58	9568	9683	9799	9914	0030	0145	0261	0377	0492	0607		
59	575.0723	0839	0954	1070	1185	1301	1416	1532	1647	1763		
3760	1878	1994	2109	2225	2340	2456	2571	2687	2802	2918	115	
61	3033	3149	3264	3380	3495	3611	3726	3842	3957	4072		
62	4188	4303	4419	4534	4650	4765	4880	4996	5111	5227		
63	5342	5458	5573	5688	5804	5919	6035	6150	6265	6381		
64	6496	6611	6727	6842	6958	7073	7188	7304	7419	7534		
65	7650	7765	7880	7996	8111	8226	8342	8457	8572	8688		
66	8803	8918	9034	9149	9264	9380	9495	9610	9726	9841		
67	9956	0071	0187	0302	0417	0533	0648	0763	0878	0994		
68	576.1109	1224	1339	1455	1570	1685	1800	1916	2031	2146		
69	2261	2377	2492	2607	2722	2837	2953	3068	3183	3298		
3770	3414	3529	3644	3759	3874	3989	4105	4220	4335	4450	115	
71	4565	4680	4796	4911	5026	5141	5256	5371	5487	5602	1-11	
72	5717	5832	5947	6062	6177	6292	6408	6523	6638	6753	2-23	
73	6868	6983	7098	7213	7328	7443	7559	7674	7789	7904	3-34	
74	8019	8134	8249	8364	8479	8594	8709	8824	8939	9054	4-46	
75	9170	9285	9400	9515	9630	9745	9860	9975	0090	0205	5-57	
76	577.0320	0435	0550	0665	0780	0895	1010	1125	1240	1355	6-69	
77	1470	1585	1700	1815	1930	2045	2160	2275	2390	2505	7-80	
78	2620	2734	2849	2964	3079	3194	3309	3424	3539	3654	8-92	
79	3769	3884	3999	4114	4229	4343	4458	4573	4688	4803	9-103	
3780	4918	5033	5148	5263	5377	5492	5607	5722	5837	5952		
81	6067	6182	6296	6411	6526	6641	6756	6871	6986	7100		
82	7215	7330	7445	7560	7674	7789	7904	8019	8134	8249		
83	8363	8478	8593	8708	8823	8937	9052	9167	9282	9396		
84	9511	9626	9741	9856	9970	0085	0200	0315	0429	0544		
85	578.0659	0774	0888	1003	1118	1232	1347	1462	1577	1691		
86	1806	1921	2035	2150	2265	2380	2494	2609	2724	2838		
87	2953	3068	3182	3297	3412	3526	3641	3756	3870	3985		
88	4100	4214	4329	4444	4558	4673	4787	4902	5017	5131		
89	5246	5361	5475	5590	5704	5819	5934	6048	6163	6277		
3790	6392	6507	6621	6736	6850	6965	7080	7194	7309	7423	114	
91	7538	7652	7767	7881	7996	8111	8225	8340	8454	8569	1-11	
92	8683	8798	8912	9027	9141	9256	9370	9485	9599	9714	2-23	
93	9828	9943	0057	0172	0286	0401	0515	0630	0744	0859	3-34	
94	579.0973	1088	1202	1317	1431	1546	1660	1774	1889	2003	4-46	
95	2118	2232	2347	2461	2575	2690	2804	2919	3033	3148	5-57	
96	3262	3376	3491	3605	3720	3834	3948	4063	4177	4292	6-68	
97	4406	4520	4635	4749	4863	4978	5092	5206	5321	5435	7-80	
98	5550	5664	5778	5893	6007	6121	6236	6350	6464	6579	8-91	
99	6693	6807	6922	7036	7150	7264	7379	7493	7607	7722	9-103	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 38000. L. 579

Logarithms

Nums	0	1	2	3	4	5	6	7	8	9	D	Pts.
3800	579.7836	7950	8064	8179	8293	8407	8522	8636	8750	8864	114	114
01	8979	9093	9207	9321	9436	9550	9664	9778	9893	0007		1-11
02	580.0121	0235	0350	0464	0578	0692	0806	0921	1035	1149		2-23
03	1263	1377	1492	1606	1720	1834	1948	2063	2177	2291		3-34
04	2405	2519	2633	2748	2862	2976	3090	3204	3318	3432		4-46
05	3547	3661	3775	3889	4003	4117	4231	4345	4460	4574		5-57
06	4688	4802	4916	5030	5144	5258	5372	5486	5601	5715		6-68
07	5829	5943	6057	6171	6285	6399	6513	6627	6741	6855		7-80
08	6969	7083	7197	7311	7426	7540	7654	7768	7882	7996		8-91
09	8110	8224	8338	8452	8566	8680	8794	8908	9022	9136		9-103
3810	9250	9364	9478	9592	9706	9820	9934	0048	0162	0275		
11	581.0389	0503	0617	0731	0845	0959	1073	1187	1301	1415		
12	1529	1643	1757	1871	1985	2099	2212	2326	2440	2554		
13	2668	2782	2896	3010	3124	3237	3351	3465	3579	3693		
14	3807	3921	4035	4148	4262	4376	4490	4604	4718	4832		
15	4945	5059	5173	5287	5401	5515	5628	5742	5856	5970		
16	6084	6197	6311	6425	6539	6653	6766	6880	6994	7108		
17	7222	7335	7449	7563	7677	7790	7904	8018	8132	8245		
18	8359	8473	8587	8700	8814	8928	9042	9155	9269	9383		
19	9497	9610	9724	9838	9951	0065	0179	0293	0406	0520		
3820	582.0634	0747	0861	0975	1088	1202	1316	1429	1543	1657		
21	1770	1884	1998	2111	2225	2339	2452	2566	2680	2793		
22	2907	3020	3134	3248	3361	3475	3589	3702	3816	3929		
23	4043	4157	4270	4384	4497	4611	4724	4838	4952	5065		
24	5179	5292	5406	5519	5633	5747	5860	5974	6087	6201		
25	6314	6428	6541	6655	6768	6882	6996	7109	7223	7336		
26	7459	7563	7677	7790	7904	8017	8131	8244	8358	8471	113	
27	8585	8698	8812	8925	9038	9152	9265	9379	9492	9606		
28	9719	9833	9946	0060	0173	0286	0400	0513	0627	0740		
29	583.0840	0967	1080	1194	1307	1421	1534	1647	1761	1874		
3830	1988	2101	2214	2328	2441	2555	2668	2781	2895	3008		
31	3122	3235	3348	3462	3575	3688	3802	3915	4028	4142		
32	4255	4368	4481	4595	4708	4822	4935	5048	5162	5275		
33	5388	5501	5615	5728	5841	5955	6068	6181	6294	6408		
34	6521	6634	6748	6861	6974	7087	7201	7314	7427	7540		
35	7654	7767	7880	7993	8107	8220	8333	8446	8559	8673		
36	8786	8899	9012	9126	9239	9352	9465	9578	9692	9805		
37	9918	0031	0144	0257	0371	0484	0597	0710	0823	0936		
38	584.1050	1163	1276	1389	1502	1615	1729	1842	1955	2068		
39	2181	2294	2407	2520	2634	2747	2860	2973	3086	3199		
3840	3312	3425	3538	3651	3765	3878	3991	4104	4217	4330		113
41	4443	4556	4669	4782	4895	5008	5121	5234	5347	5461		1-11
42	5574	5687	5800	5913	6026	6139	6252	6365	6478	6591		2-23
43	6704	6817	6930	7043	7156	7269	7382	7495	7608	7721		3-34
44	7834	7947	8060	8173	8286	8399	8512	8625	8737	8850		4-45
45	8963	9076	9189	9302	9415	9528	9641	9754	9867	9980		5-56
46	585.0093	0206	0319	0431	0544	0657	0770	0883	0996	1109		6-68
47	1222	1335	1448	1560	1673	1786	1899	2012	2125	2238		7-75
48	2351	2464	2576	2689	2802	2915	3028	3141	3253	3366		8-90
49	3479	3592	3705	3818	3930	4043	4156	4269	4381	4494		9-102
Nums	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 38500 L. 585

Num	0	1	2	3	4	5	6	7	8	9	D	Prs
3850	585	4607	4720	4833	4946	5058	5171	5284	5397	5510	5622	113
51	5735	5848	5961	6073	6186	6299	6412	6524	6637	6750		
52	6863	6975	7088	7201	7314	7426	7539	7652	7765	7877		
53	7990	8103	8215	8328	8441	8554	8666	8779	8892	9004		
54	9117	9230	9342	9455	9568	9680	9793	9906	10018	1131		
55	586	0244	0356	0469	0582	0694	0807	0920	1032	1145	1258	
56	1370	1483	1595	1708	1821	1933	2046	2159	2271	2384		
57	2496	2609	2722	2834	2947	3059	3172	3285	3397	3510		
58	3622	3735	3847	3960	4072	4185	4298	4410	4523	4635		
59	4748	4860	4973	5085	5198	5310	5423	5535	5648	5760		
3860	5873	5986	6098	6211	6323	6436	6548	6661	6773	6885	112	
61	6998	7110	7223	7335	7448	7560	7673	7785	7898	8010		
62	8123	8235	8348	8460	8572	8685	8797	8910	9022	9135		
63	9247	9359	9472	9584	9697	9809	9922	0034	0146	0259		
64	587	0371	0484	0596	0708	0821	0933	1045	1158	1270	1383	
65	1495	1607	1720	1832	1944	2057	2169	2281	2394	2506		
66	2618	2731	2843	2955	3068	3180	3292	3405	3517	3629		
67	3742	3854	3966	4079	4191	4303	4415	4528	4640	4752		
68	4865	4977	5089	5201	5314	5426	5538	5650	5763	5875		
69	5987	6099	6212	6324	6436	6548	6661	6773	6885	6997		
3870	7110	7222	7334	7446	7558	7671	7783	7895	8007	8119	112	
71	8232	8344	8456	8568	8680	8793	8905	9017	9129	9241	1-11	
72	9353	9466	9578	9690	9802	9914	0026	0139	0251	0363	2-22	
73	588	0475	0587	0699	0811	1036	1148	1260	1372	1484	3-34	
74	1596	1708	1820	1932	2045	2157	2269	2381	2493	2605	4-	
75	2717	2829	2941	3053	3165	3277	3389	3501	3614	3726	5-56	
76	3838	3950	4062	4174	4286	4398	4510	4622	4734	4846	6-67	
77	4958	5070	5182	5294	5406	5518	5630	5742	5854	5966	7-78	
78	6078	6190	6302	6414	6526	6638	6750	6862	6974	7086	8-90	
79	7198	7310	7422	7534	7646	7758	7869	7981	8093	8205	9-101	
3880	8317	8429	8541	8653	8765	8877	8989	9101	9213	9324	111	
81	9436	9548	9660	9772	9884	9996	0108	0220	0332	0443		
82	589	0555	0667	0779	0891	1115	1226	1338	1450	1562		
83	1674	1786	1898	2009	2121	2233	2345	2457	2569	2680		
84	2792	2904	3016	3128	3239	3351	3463	3575	3687	3798		
85	3910	4022	4134	4246	4357	4469	4581	4693	4804	4916		
86	5028	5140	5251	5363	5475	5587	5698	5810	5922	6034		
87	6145	6257	6369	6481	6592	6704	6816	6927	7039	7151		
88	7263	7374	7486	7598	7709	7821	7933	8044	8156	8268		
89	8379	8491	8603	8714	8826	8938	9049	9161	9273	9384		
3890	9496	9608	9719	9831	9943	0054	0166	0277	0389	0501	111	
91	590	0612	0724	0835	0947	1170	1282	1393	1505	1617	1-11	
92	1728	1840	1951	2063	2175	2286	2398	2509	2621	2732	2-22	
93	2844	2956	3067	3179	3290	3402	3513	3625	3736	3848	3-33	
94	3959	4071	4182	4294	4406	4517	4629	4740	4852	4963	4-41	
95	5075	5186	5298	5409	5521	5632	5744	5855	5966	6078	11	
96	6189	6301	6413	6524	6635	6747	6858	6970	7081	7193		
97	7304	7415	7527	7638	7750	7861	7973	8084	8196	8307		
98	8418	8530	8641	8753	8864	8975	9087	9198	9310	9421		
99	9532	9644	9755	9866	9978	0089	0201	0312	0423	0535		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
3900	591.0646	0757	0869	0980	1091	1203	1314	1425	1537	1648	III	III
01	1760	1871	1982	2093	2205	2316	2427	2539	2650	2761		I—11
02	2873	2984	3095	3206	3318	3429	3540	3652	3763	3874		2—22
03	3986	4097	4208	4319	4431	4542	4653	4764	4876	4987		3—33
04	5098	5209	5321	5432	5543	5654	5765	5877	5988	6099		4—44
05	6210	6322	6433	6544	6655	6766	6878	6989	7100	7211		5—55
06	7322	7434	7545	7656	7767	7878	7989	8101	8212	8323		6—67
07	8434	8545	8656	8768	8879	8990	9101	9212	9323	9434		7—78
08	9546	9657	9768	9879	9990	0101	0212	0323	0434	0546		8—89
09	592.0657	0768	0879	0990	1101	1212	1323	1434	1545	1656		9—100
3910	1768	1879	1990	2101	2212	2323	2434	2545	2656	2767		
11	2878	2989	3100	3211	3322	3433	3544	3655	3766	3877		
12	3988	4099	4210	4321	4432	4543	4654	4765	4876	4987		
13	5098	5209	5320	5431	5542	5653	5764	5875	5986	6097		
14	6208	6319	6430	6541	6652	6763	6874	6985	7096	7207		
15	7318	7429	7539	7650	7761	7872	7983	8094	8205	8316		
16	8427	8538	8649	8759	8870	8981	9092	9203	9314	9425		
17	9536	9647	9757	9868	9979	0090	0201	0312	0423	0533		
18	593.0644	0755	0866	0977	1088	1198	1309	1420	1531	1642		
19	1753	1863	1974	2085	2196	2307	2417	2528	2639	2750		
3920	2861	2971	3082	3193	3304	3415	3525	3636	3747	3858		
21	3968	4079	4190	4301	4411	4522	4633	4744	4854	4965		
22	5076	5187	5297	5408	5519	5629	5740	5851	5962	6072		
23	6183	6294	6404	6515	6626	6737	6847	6958	7069	7179		
24	7290	7401	7511	7622	7733	7843	7954	8065	8175	8286		
25	8397	8507	8618	8728	8839	8950	9060	9171	9282	9392		
26	9503	9614	9724	9835	9945	0056	0167	0277	0388	0498		
27	594.0639	0720	0830	0941	1051	1162	1272	1383	1494	1604		
28	1715	1825	1936	2046	2157	2268	2378	2489	2599	2710		
29	2820	2931	3041	3152	3262	3373	3483	3594	3704	3815		
3930	3926	4036	4146	4257	4367	4478	4588	4699	4809	4920	II0	
31	5030	5141	5251	5362	5472	5583	5693	5804	5914	6025		
32	6135	6245	6356	6466	6577	6687	6798	6908	7019	7129		
33	7239	7350	7460	7571	7681	7791	7902	8012	8123	8233		
34	8344	8454	8564	8675	8785	8895	9006	9116	9227	9337		
35	9447	9558	9668	9778	9889	9999	0109	0220	0330	0441		
36	595.0651	0661	0772	0882	0992	1103	1213	1323	1433	1544		
37	1654	1764	1875	1985	2095	2206	2316	2426	2536	2647		
38	2757	2867	2978	3088	3198	3308	3419	3529	3639	3749		
39	3862	3970	4081	4191	4301	4411	4521	4631	4742	4852		
3940	4962	5072	5183	5293	5403	5513	5623	5734	5844	5954		II0
41	6064	6174	6285	6395	6505	6615	6725	6836	6946	7056		I—11
42	7166	7276	7386	7497	7607	7717	7827	7937	8047	8158		2—22
43	8268	8378	8488	8598	8708	8818	8929	9039	9149	9259		3—33
44	9369	9479	9589	9699	9809	9920	0030	0140	0250	0360		4—44
45	596.0470	0580	069	0800	0910	1020	1130	1241	1351	1461		5—55
46	1571	1681	179	1901	2011	2121	2231	2341	2451	2561		6—66
47	267	2781	2891	3001	3111	3221	3331	3441	3551	3661		7—77
48	377	3881	3991	4101	4211	4321	4431	4541	4651	4761		8—88
49	4871	4981	5091	5201	5311	5421	5531	5641	5751	5861		9—99
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 39500. L. 596

Num	0	1	2	3	4	5	6	7	8	9	D	Ps
3950	596	5971	6081	6191	6301	6411	6521	6631	6740	6850	6960	110
51	7070	7180	7290	7400	7510	7620	7730	7840	7950	8059		
52	8169	8279	8389	8499	8609	8719	8829	8938	9048	9158		
53	9268	9378	9488	9598	9708	9817	9927	0037	0147	0257		
54	597	0367	0476	0586	0696	0806	0916	1026	1135	1245	1355	
55	1465	1575	1684	1794	1904	2014	2124	2233	2343	2453		
56	2563	2673	2782	2892	3002	3112	3221	3331	3441	3551		
57	3661	3770	3880	3990	4099	4209	4319	4429	4538	4648		
58	4758	4868	4977	5087	5197	5306	5416	5526	5636	5745		
59	5855	5965	6074	6184	6294	6403	6513	6623	6732	6842		
3960	6952	7061	7171	7281	7390	7500	7610	7719	7829	7939		
61	8048	8158	8268	8377	8487	8597	8706	8816	8925	9035		
62	9145	9254	9364	9473	9583	9693	9802	9912	0021	0131		
63	598	0241	0350	0460	0569	0679	0789	0898	1008	1117	1227	
64	1336	1446	1556	1665	1775	1884	1994	2103	2213	2322		
65	2432	2541	2651	2760	2870	2979	3089	3199	3308	3418		
66	3527	3637	3746	3856	3965	4075	4184	4294	4403	4512	109	
67	4622	4731	4841	4950	5060	5169	5279	5388	5498	5607		
68	5717	5826	5935	6045	6154	6264	6373	6483	6592	6702		
69	6811	6920	7030	7139	7249	7358	7467	7577	7686	7796		
3970	7905	8014	8124	8233	8343	8452	8561	8671	8780	8889		
71	8999	9108	9218	9327	9436	9546	9655	9764	9874	9983		
72	599	0092	0202	0311	0420	0530	0639	0748	0858	0967	1076	
73	1186	1295	1404	1514	1623	1732	1841	1951	2060	2169		
74	2270	2388	2497	2606	2716	2825	2934	3043	3153	3262		
75	3371	3481	3590	3699	3808	3918	4027	4136	4245	4354		1
76	4464	4573	4682	4791	4901	5010	5119	5228	5337	5447		
77	5556	5665	5774	5883	5993	6102	6211	6320	6429	6539		
78	6648	6757	6866	6975	7084	7194	7303	7412	7521	7630		
79	7739	7848	7958	8067	8176	8285	8394	8503	8612	8722		
3980	8831	8940	9049	9158	9267	9376	9485	9594	9704	9813		109
81	9922	0031	0140	0249	0358	0467	0576	0685	0794	0903	111	
82	600	1013	1122	1231	1340	1449	1558	1667	1776	1885	1994	2-22
83	2103	2212	2321	2430	2539	2648	2757	2866	2975	3084		3-33
84	3193	3302	3411	3520	3629	3738	3847	3956	4065	4174		4-44
85	4283	4392	4501	4610	4719	4828	4937	5046	5155	5264		5-54
86	5373	5482	5591	5700	5809	5918	6027	6136	6244	6353		6-65
87	6462	6571	6680	6789	6898	7007	7116	7225	7334	7443		7-76
88	7551	7660	7769	7878	7987	8096	8205	8313	8423	8531		8-87
89	8640	8749	8858	8967	9076	9185	9293	9402	9511	9620		9-98
3990	9729	9838	9947	0055	0164	0273	0382	0491	0600	0708		
91	601	0817	0926	1035	1144	1252	1361	1470	1579	1688	1796	
92	1905	2014	2123	2232	2340	2449	2558	2667	2776	2884		
93	2993	3102	3211	3319	3428	3537	3646	3754	3863	3972		
94	4081	4189	4298	4407	4515	4624	4733	4842	4950	5059		
95	5168	5276	5385	5494	5603	5711	5820	5929	6037	6146		
96	6255	6363	6472	6581	6689	6798	6907	7015	7124	7233		
97	7341	7450	7559	7667	7776	7885	7993	8102	8211	8319		
98	8428	8536	8645	8754	8862	8971	9080	9188	9297	9405		
99	9514	9623	9731	9840	9948	0057	0166	0274	0383	0491		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 40000. L 602.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4000	602.0600	0708	0817	0926	1034	1143	1251	1360	1468	1577	105	109
01	1686	1794	1903	2011	2120	2228	2337	2445	2554	2662		1-11
02	2771	2879	2988	3096	3205	3313	3422	3530	3639	3747		2-22
03	3856	3964	4073	4181	4290	4398	4507	4615	4724	4832	108	3-33
04	4941	5049	5158	5266	5374	5483	5591	5700	5808	5917		4-44
05	6025	6134	6242	6350	6459	6567	6676	6784	6893	7001		5-54
06	7109	7218	7326	7435	7543	7651	7760	7868	7977	8085		6-65
07	8193	8302	8410	8519	8627	8735	8844	8952	9060	9169		7-76
08	9277	9385	9494	9602	9710	9819	9927	0036	0144	0252		8-87
09	603.0361	0469	0577	0685	0794	0902	1010	1119	1227	1335		9-98
4010	1444	1552	1660	1769	1877	1985	2093	2202	2310	2418		
11	2527	2635	2743	2851	2960	3068	3176	3284	3393	3501		
12	3609	3717	3826	3934	4042	4150	4259	4367	4475	4583		
13	4692	4800	4908	5016	5124	5233	5341	5449	5557	5665		
14	5774	5882	5990	6098	6206	6315	6423	6531	6639	6747		
15	6855	6964	7072	7180	7288	7396	7504	7613	7721	7829		
16	7937	8045	8153	8261	8370	8478	8586	8694	8802	8910		
17	9018	9126	9234	9343	9451	9559	9667	9775	9883	9991		
18	604.0099	0207	0315	0424	0532	0640	0748	0856	0964	1072		
19	1180	1288	1396	1504	1612	1720	1828	1936	2044	2152		
4020	2261	2369	2477	2585	2693	2801	2909	3017	3125	3233		108
21	3341	3449	3557	3665	3773	3881	3989	4097	4205	4313		1-11
22	4421	4529	4637	4744	4852	4960	5068	5176	5284	5392		2-22
23	5500	5608	5716	5824	5932	6040	6148	6256	6364	6472		3-32
24	6580	6688	6795	6903	7011	7119	7227	7335	7443	7551		4-43
25	7659	7767	7875	7982	8090	8198	8306	8414	8522	8630		5-54
26	8738	8845	8953	9061	9169	9277	9385	9493	9601	9708		6-65
27	9816	9924	0032	0140	0248	0355	0463	0571	0679	0787		7-76
28	605.0895	1002	1110	1218	1326	1434	1541	1649	1757	1865		8-86
29	1973	2080	2188	2296	2404	2512	2619	2727	2835	2943		9-97
4030	3050	3158	3266	3374	3481	3589	3697	3805	3912	4020		
31	4128	4236	4343	4451	4559	4667	4774	4882	4990	5098		
32	5205	5313	5421	5528	5636	5744	5851	5959	6067	6174		
33	6282	6390	6498	6605	6713	6821	6928	7036	7144	7251		
34	7359	7467	7574	7682	7789	7897	8005	8112	8220	8328		
35	8435	8543	8651	8758	8866	8973	9081	9189	9296	9404		
36	9512	9619	9727	9834	9942	0050	0157	0265	0372	0480		
37	606.0587	0695	0803	0910	1018	1125	1233	1340	1448	1556		
38	1663	1771	1878	1986	2093	2201	2308	2416	2523	2631		
39	2739	2846	2953	3061	3169	3276	3384	3491	3599	3706		
4040	3814	3921	4029	4126	4244	4351	4459	4566	4673	4781	107	
41	4889	4996	5103	5211	5318	5426	5533	5641	5748	5856		
42	5963	6070	6178	6285	6393	6500	6608	6715	6823	6930		
43	7037	7145	7252	7360	7467	7574	7682	7789	7897	8004		
44	8111	8219	8326	8434	8541	8648	8756	8863	8970	9078		
45	9185	9293	9400	9507	9615	9722	9829	9937	0044	0151		
46	607.0259	0366	0473	0581	0688	0795	0903	1010	1117	1225		
47	1332	1439	1547	1654	1761	1869	1976	2083	2190	2298		
48	2405	2512	2620	2727	2834	2941	3049	3156	3263	3370		
49	3478	3585	3692	3799	3907	4014	4121	4228	4336	4443		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 40500. L. 607

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4050	607	4550	4657	4765	4872	4979	5086	5194	5301	5408	5515	107
51		5622	5730	5837	5944	6051	6158	6266	6373	6480	6587	
52		6694	6801	6909	7016	7123	7230	7337	7445	7552	7659	
53		7766	7873	7980	8087	8195	8302	8409	8516	8623	8730	
54		8837	8945	9052	9159	9266	9373	9480	9587	9694	9801	
55		9909	0016	0123	0230	0337	0444	0551	0658	0765	0872	
56	608	0979	1086	1194	1301	1408	1515	1622	1729	1836	1943	
57		2050	2157	2264	2371	2478	2585	2692	2799	2906	3013	
58		3120	3227	3334	3441	3548	3655	3762	3869	3976	4083	
59		4191	4297	4404	4511	4618	4725	4832	4939	5046	5153	
4060		5260	5367	5474	5581	5688	5795	5902	6009	6116	6223	107
6		6330	6437	6544	6651	6758	6865	6971	7078	7185	7292	1-11
6		7399	7506	7613	7720	7827	7934	8041	8147	8254	8361	2-21
6		8468	8575	8682	8789	8896	9003	9109	9216	9323	9430	3-32
64		9537	9644	9751	9858	9964	0071	0178	0285	0392	0499	4-43
65	609	0605	0712	0819	0926	1033	1140	1246	1353	1460	1567	5-53
66		1674	1781	1887	1994	2101	2208	2315	2421	2528	2635	6-64
67		2742	2848	2955	3062	3169	3276	3382	3489	3596	3703	7-75
68		3809	3916	4023	4130	4236	4343	4450	4557	4663	4770	8-86
69		4877	4984	5090	5197	5304	5410	5517	5624	5731	5837	9-96
4070		5944	6051	6157	6264	6371	6478	6584	6691	6798	6904	
71		7011	7118	7224	7331	7438	7544	7651	7758	7864	7971	
72		8078	8184	8291	8398	8504	8611	8718	8824	8931	9037	
73		9144	9251	9357	9464	9571	9677	9784	9890	9997	0104	
74	610	0210	0317	0423	0530	0637	0743	0850	0956	1063	1170	
75		1276	1383	1489	1596	1702	1809	1915	2022	2129	2235	
76		2342	2448	2555	2661	2768	2874	2981	3087	3194	3301	
77		3407	3514	3620	3727	3833	3940	4046	4153	4259	4366	
78		4472	4579	4685	4792	4898	5005	5111	5218	5324	5431	
79		5537	5643	5750	5856	5963	6069	6176	6282	6389	6495	106
4080		6602	6708	6814	6921	7027	7134	7240	7347	7453	7559	
81		7666	7772	7879	7985	8092	8198	8304	8411	8517	8624	
82		8730	8836	8943	9049	9156	9262	9368	9475	9581	9687	
83		9794	9900	0006	0113	0219	0326	0432	0538	0645	0751	
84	511	0857	0964	1070	1176	1283	1389	1495	1602	1708	1814	
85		1921	2027	2133	2239	2346	2452	2558	2665	2771	2877	
86		2984	3090	3196	3302	3409	3515	3621	3728	3834	3940	
87		4046	4153	4259	4365	4471	4578	4684	4790	4896	5003	
88		5109	5215	5321	5428	5534	5640	5746	5852	5959	6065	
89		6171	6277	6383	6490	6596	6702	6808	6914	7021	7127	
4090		7233	7339	7445	7552	7658	7764	7870	7976	8082	8189	10
91		8295	8401	8507	8613	8719	8826	8932	9038	9144	9250	1-1
92		9356	9462	9568	9675	9781	9887	9993	0099	0205	0311	2-2
93	612	0417	0524	0630	0736	0842	0948	1054	1160	1266	1372	3-3
94		1478	1584	1690	1797	1903	2009	2115	2221	2327	2433	4-4
95		2539	2645	2751	2857	2963	3069	3175	3281	3387	3493	5-5
96		3599	3706	3811	3918	4024	4130	4236	4342	4448	4554	6-6
97		4660	4766	4872	4978	5084	5190	5296	5402	5508	5614	7-7
98		5720	5825	5931	6037	6143	6249	6355	6461	6567	6673	8-8
99		6779	6885	6991	7097	7203	7309	7415	7521	7627	7733	9-9
Num	0	1	2	3	4	5	6	7	8	9	D	Pt

N. 41000. L. 612.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4100	612.7839	7944	8050	8156	8262	8368	8474	8580	8686	8792	106	106
01	8898	9004	9109	9215	9321	9427	9533	9639	9745	9851		1-11
02	9957	0062	0168	0274	0380	0486	0592	0698	0803	0909		2-21
03	613.1015	1121	1227	1333	1438	1544	1650	1756	1862	1968		3-32
04	2074	2179	2285	2391	2497	2603	2708	2814	2920	3026		4-42
05	3132	3237	3343	3449	3555	3661	3766	3872	3978	4084		5-53
06	4189	4295	4401	4507	4612	4718	4824	4930	5035	5141		6-64
07	5247	5353	5458	5564	5670	5776	5881	5987	6093	6199		7-74
08	6304	6410	6516	6621	6727	6833	6939	7044	7150	7256		8-85
09	7361	7467	7573	7678	7784	7890	7995	8101	8207	8312		9-95
4110	8418	8524	8629	8735	8841	8946	9052	9158	9263	9369		
11	9475	9580	9686	9792	9897	0003	0109	0214	0320	0425		
12	614.0531	0637	0742	0848	0953	1059	1165	1270	1376	1481		
13	1587	1693	1798	1904	2009	2115	2221	2326	2432	2537		
14	2643	2748	2854	2960	3065	3171	3276	3382	3487	3593		
15	3698	3804	3909	4015	4120	4226	4332	4437	4543	4648		
16	4754	4859	4965	5070	5176	5281	5387	5492	5598	5703		
17	5809	5914	6020	6125	6231	6336	6441	6547	6652	6758	105	
18	6863	6969	7074	7180	7285	7391	7496	7602	7707	7812		
19	7918	8023	8129	8234	8340	8445	8550	8656	8761	8867		
4120	8973	9078	9183	9288	9394	9499	9605	9710	9815	9921		
21	615.0026	0131	0237	0342	0448	0553	0658	0764	0869	0974		
22	1080	1185	1291	1396	1501	1607	1712	1817	1923	2028		
23	2135	2239	2344	2449	2555	2660	2765	2871	2976	3081		
24	3187	3292	3397	3502	3608	3713	3818	3924	4029	4134		
25	4240	4345	4450	4555	4661	4766	4871	4976	5082	5187		
26	5292	5397	5503	5608	5713	5818	5924	6029	6134	6239		
27	6345	6450	6555	6660	6766	6871	6976	7081	7186	7292		
28	7397	7502	7607	7712	7818	7923	8028	8133	8238	8344		
29	8449	8554	8659	8764	8869	8975	9080	9185	9290	9395		
4130	9501	9606	9711	9816	9921	0026	0131	0236	0342	0447	105	
31	616.0557	0657	0762	0867	0972	1077	1183	1288	1393	1498		1-10
32	1603	1708	1813	1918	2023	2129	2234	2339	2444	2549		2-21
33	2654	2759	2864	2969	3074	3179	3284	3389	3495	3600		3-31
34	3705	3810	3915	4020	4125	4230	4335	4440	4545	4650		4-42
35	4755	4860	4965	5070	5175	5280	5385	5490	5595	5700		5-53
36	5805	5910	6015	6120	6225	6330	6435	6540	6645	6750		6-62
37	6855	6960	7065	7170	7275	7380	7485	7590	7695	7800		7-72
38	7905	8010	8115	8220	8325	8430	8534	8639	8744	8849		8-84
39	8954	9059	9164	9269	9374	9479	9584	9689	9794	9898		9-94
4140	617.0003	0108	0213	0318	0423	0528	0633	0738	0842	0947		
41	1052	1157	1262	1367	1472	1577	1681	1786	1891	1996		
42	2101	2206	2311	2415	2520	2625	2730	2835	2940	3044		
43	3149	3254	3359	3464	3569	3673	3778	3883	3988	4093		
44	4197	4302	4407	4512	4617	4721	4826	4931	5036	5141		
45	5245	5350	5455	5560	5664	5769	5874	5979	6083	6188		
46	6293	6398	6502	6607	6712	6817	6921	7026	7131	7236		
47	7340	7445	7550	7654	7759	7864	7969	8073	8178	8283		
48	8387	8492	8597	8702	8806	8911	9016	9120	9225	9330		
49	9434	9539	9644	9748	9853	9958	0062	0167	0272	0376		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 41500. L. 618

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4150	618.0481	0586	0690	0795	0899	1004	1109	1213	1318	1423	105	
51	1527	1632	1737	1841	1946	2050	2155	2260	2364	2469		
52	2573	2678	2783	2887	2992	3096	3201	3306	3410	3515		
53	3619	3724	3828	3932	4038	4142	4247	4351	4456	4560		
54	4665	4769	4874	4979	5083	5188	5292	5397	5501	5606		
55	5710	5815	5919	6024	6128	6233	6337	6442	6546	6651		
56	6755	6860	6964	7069	7173	7278	7382	7487	7591	7696	104	
57	7800	7905	8009	8114	8218	8323	8427	8531	8636	8740		
58	8845	8949	9054	9158	9263	9367	9471	9576	9680	9785		
59	9889	9994	0098	0202	0307	0411	0516	0620	0724	0829		
4160	619.0933	1038	1142	1246	1351	1455	1560	1664	1768	1873		
61	1977	2081	2186	2290	2395	2499	2603	2708	2812	2916		
62	3021	3125	3229	3334	3438	3542	3647	3751	3855	3960		
63	4064	4168	4273	4377	4481	4586	4690	4794	4899	5003		
64	5107	5211	5316	5420	5524	5629	5733	5837	5941	6046		
65	6150	6254	6359	6463	6567	6671	6776	6880	6984	7088		
66	7193	7297	7401	7505	7610	7714	7818	7922	8027	8131		
67	8235	8339	8443	8548	8652	8756	8860	8964	9069	9173		
68	9277	9381	9485	9590	9694	9798	9902	0006	0111	0215		
69	620.0319	0423	0527	0631	0736	0840	0944	1048	1152	1256		
4170	1361	1465	1569	1673	1777	1881	1985	2089	2194	2298	104	
71	2402	2506	2610	2714	2818	2922	3027	3131	3235	3339	1-10	
72	3443	3547	3651	3755	3859	3963	4067	4172	4276	4380	2-21	
73	4481	4588	4692	4796	4900	5004	5108	5212	5316	5420	3-31	
74	5524	5628	5732	5837	5941	6045	6149	6253	6357	6461	4-42	
75	6565	6669	6773	6877	6981	7085	7189	7293	7397	7501	5-52	
76	7605	7709	7813	7917	8021	8125	8229	8333	8437	8541	6-62	
77	8645	8749	8853	8957	9061	9165	9269	9372	9476	9580	7-73	
78	9684	9788	9892	9996	0100	0204	0308	0412	0516	0620	8-83	
79	621.0724	0828	0931	1035	1139	1243	1347	1451	1555	1659	9-94	
4180	1763	1867	1971	2074	2178	2282	2386	2490	2594	2698		
81	2802	2905	3009	3113	3217	3321	3425	3529	3633	3736		
82	3840	3944	4048	4152	4256	4359	4463	4567	4671	4775		
83	4875	4982	5086	5190	5294	5398	5501	5605	5709	5813		
84	5917	6021	6124	6228	6332	6436	6539	6643	6747	6851		
85	6955	7058	7162	7266	7370	7474	7577	7681	7785	7888		
86	7992	8096	8200	8303	8407	8511	8615	8718	8822	8926		
87	9030	9133	9237	9341	9444	9548	9652	9756	9859	9963		
88	622.0057	0170	0274	0378	0481	0585	0689	0793	0896	1000		
89	1104	1207	1311	1415	1518	1622	1726	1829	1933	2037		
4190	2140	2244	2347	2451	2555	2658	2762	2866	2969	3073	103	
91	3177	3280	3384	3487	3591	3695	3798	3902	4005	4109	1-10	
92	4213	4316	4420	4523	4627	4731	4834	4938	5041	5145	2-21	
93	5249	5352	5456	5559	5663	5766	5870	5974	6077	6181	3-31	
94	6284	6388	6491	6595	6698	6802	6905	7009	7113	7216	4-41	
95	7320	7423	7527	7630	7734	7837	7941	8044	8148	8251	5-51	
96	8355	8458	8562	8665	8769	8872	8976	9079	9183	9286	103	
97	9390	9493	9597	9700	9804	9907	0010	0114	0217	0321	7-72	
98	623.0424	0528	0631	0735	0838	0942	1045	1148	1252	1355	8-82	
99	1459	1562	1666	1769	1872	1976	2079	2183	2286	2389	9-93	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num. 42000. L. 623

Logarithms.

Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
4200	523.2493	2590	2700	2803	2906	3010	3113	3217	3323	34-3	103	
01	3527	1630	3734	3837	3940	4044	4147	4250	4354	4457		
02	4560	4664	4767	4870	4974	5077	5181	5284	5387	5491		
03	5594	5697	5801	5904	6007	6110	6214	6317	6420	6524		
04	6627	6730	6834	6937	7040	7144	7247	7350	7453	7557		
05	7660	7763	7867	7970	8073	8176	8280	8383	8486	8589		
06	8693	8796	8899	9002	9106	9209	9312	9415	9519	9622		
07	9725	9828	9932	0035	0138	0241	0344	0448	0551	0654		
08	624.0757	0860	0964	1067	1170	1273	1376	1480	1583	1686		
09	1789	1892	1996	2099	2202	2305	2408	2511	2615	2718		
4210	2821	2924	3027	3130	3234	3337	3440	3543	3646	3749		103
11	3852	3955	4059	4162	4265	4368	4471	4574	4677	4780		1-10
12	4884	4987	5090	5193	5296	5399	5502	5605	5708	5811		2-21
13	5915	6018	6121	6224	6327	6430	6533	6636	6739	6842		3-31
14	6945	7048	7151	7254	7357	7460	7564	7667	7770	7873		4-41
15	7976	8079	8182	8285	8388	8491	8594	8697	8800	8903		5-51
16	9006	9109	9212	9315	9418	9521	9624	9727	9830	9933		6-62
17	625.0036	0139	0242	0345	0448	0551	0654	0757	0860	0963		7-72
18	1066	1169	1272	1375	1478	1580	1683	1786	1889	1992		8-82
19	2095	2198	2301	2404	2507	2610	2713	2816	2919	3022		9-93
4220	3125	3227	3330	3433	3536	3639	3742	3845	3948	4051		
21	4154	4256	4359	4462	4565	4668	4771	4874	4977	5079		
22	5182	5285	5388	5491	5594	5697	5799	5902	6005	6108		
23	6211	6314	6416	6519	6622	6725	6828	6931	7033	7136		
24	7239	7342	7445	7547	7650	7753	7856	7959	8061	8164		
25	8267	8370	8473	8575	8678	8781	8884	8987	9089	9192		
26	9295	9398	9500	9603	9706	9809	9911	0014	0117	0220		
27	626.0322	0424	0528	0631	0733	0836	0939	1042	1144	1247		
28	1350	1452	1555	1658	1761	1863	1966	2069	2171	2274		
29	2377	2479	2582	2685	2788	2890	2993	3096	3198	3301		
4230	3404	3506	3609	3712	3814	3917	4020	4122	4225	4328		
31	4430	4533	4635	4738	4841	4943	5046	5149	5251	5354		
32	5457	5559	5662	5764	5867	5970	6072	6175	6277	6380		
33	6483	6585	6688	6790	6893	6996	7098	7201	7303	7406		
34	7509	7611	7714	7816	79-9	8021	8124	8226	8329	8432		
35	8534	8637	8739	8842	8944	9047	9149	9252	9354	9457		
36	9560	9662	9765	9867	9970	0072	0175	0277	0380	0482		
37	627.0585	0687	0790	0892	0995	1097	1200	1302	1405	1507	102	
38	1610	1712	1814	1917	2019	2122	2224	2327	2429	2532		
39	2634	2737	2839	2941	3044	3146	3249	3351	3454	3556		
4240	3659	3761	3863	3966	4068	4171	4273	4375	4478	4580		
41	4683	4785	4887	4990	5092	5195	5297	5399	5502	5604		
42	5707	5809	5911	6014	6116	6218	6321	6423	6526	6628		
43	6730	6833	6935	7037	7140	7242	7344	7447	7549	7651		
44	7754	7856	7958	8061	8163	8265	8368	8470	8572	8675		
45	8777	8879	8982	9084	9186	9288	9391	9493	9595	9698		
46	9800	9902	0004	0107	0209	0311	0414	0516	0618	0720		
47	528.0823	0925	1027	1129	1232	1334	1436	1538	1641	1743		
48	1845	1947	2049	2152	2254	2356	2458	2561	2663	2765		
49	2867	2969	3071	3174	3276	3378	3480	3583	3685	3787		
Num.	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 42500. L. 628

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4250	628	3889	3991	4094	4196	4298	4400	4502	4605	4707	4809	102
51	4911	5013	5115	5217	5320	5422	5524	5626	5728	5830		
52	5933	6035	6137	6239	6341	6443	6545	6647	6750	6852		
53	6954	7056	7158	7260	7362	7464	7566	7669	7771	7873		
54	7975	8077	8179	8281	8383	8485	8587	8689	8791	8894		
55	8996	9098	9200	9302	9404	9506	9608	9710	9812	9914		
56	629	0016	0118	0220	0322	0424	0526	0628	0730	0832	0934	
57	1037	1138	1240	1342	1445	1547	1649	1751	1853	1955		
58	2057	2159	2261	2362	2464	2566	2668	2770	2872	2974		
59	3076	3178	3280	3382	3484	3586	3688	3790	3892	3994		
4260	4096	4198	4300	4402	4504	4606	4708	4810	4911	5013		102
61	5115	5217	5319	5421	5523	5625	5727	5829	5931	6033		1-10
62	6134	6236	6338	6440	6542	6644	6746	6848	6950	7051		2-20
63	7153	7255	7357	7459	7561	7663	7764	7866	7968	8070		3-31
64	8172	8274	8376	8477	8579	8681	8783	8885	8987	9088		4-41
65	9190	9292	9394	9496	9598	9699	9801	9903	0005	0107		5-51
66	630	0209	0310	0412	0514	0616	0717	0819	0921	1023		6-61
67	1226	1328	1430	1532	1633	1735	1837	1939	2041	2142		7-71
68	2244	2346	2448	2549	2651	2753	2855	2956	3058	3160		8-82
69	3262	3363	3465	3567	3668	3770	3872	3974	4075	4177		9-92
4270	4279	4380	4482	4584	4686	4787	4889	4991	5092	5194		
71	5296	5397	5499	5601	5702	5804	5906	6007	6109	6211		
72	6312	6414	6516	6617	6719	6821	6922	7024	7126	7227		
73	7329	7431	7532	7634	7735	7837	7939	8040	8142	8244		
74	8345	8447	8548	8650	8752	8853	8955	9056	9158	9260		
75	9361	9463	9564	9666	9767	9869	9971	0072	0174	0275		
76	631	0377	0478	0580	0682	0783	0885	0986	1088	1189	1291	
77	1393	1494	1596	1697	1799	1900	2002	2103	2205	2306		
78	2408	2509	2611	2712	2814	2915	3017	3118	3220	3321		
79	3423	3524	3626	3727	3829	3930	4032	4133	4235	4336	101	
4280	4438	4539	4641	4742	4843	4945	5046	5148	5249	5351		
81	5452	5554	5655	5757	5858	5959	6061	6162	6264	6365		
82	6467	6568	6669	6771	6872	6974	7075	7176	7278	7379		
83	7481	7582	7683	7785	7886	7988	8089	8190	8292	8393		
84	8495	8596	8697	8799	8900	9001	9103	9204	9305	9407		
85	9508	9610	9711	9812	9914	0015	0116	0218	0319	0420		
86	632	0522	0623	0724	0826	0927	1028	1130	1231	1332	1433	
87	1535	1636	1737	1839	1940	2041	2143	2244	2345	2446		
88	2548	2649	2750	2852	2953	3054	3155	3257	3358	3459		
89	3560	3662	3763	3864	3965	4067	4168	4269	4370	4472		
4290	4573	4674	4775	4877	4978	5079	5180	5281	5383	5484		101
91	5585	5686	5788	5889	5990	6091	6192	6294	6395	6496		1-10
92	6597	6698	6799	6901	7002	7103	7204	7305	7406	7508		2-20
93	7609	7710	7811	7912	8013	8115	8216	8317	8418	8519		3-30
94	8620	8721	8823	8924	9025	9126	9227	9328	9429	9531		4-40
95	9632	9733	9834	9935	0036	0137	0238	0339	0440	0542		5-50
96	633	0643	0744	0845	0946	1047	1148	1249	1350	1451	1552	6-61
97	1654	1755	1856	1957	2058	2159	2260	2361	2462	2563		7-71
98	2664	2765	2866	2967	3068	3169	3270	3371	3472	3573		8-81
99	3674	3775	3876	3977	4078	4179	4280	4381	4483	4584		9-91
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

K

N. 43000. L 633.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4300	533.4685	4786	1886	1987	5088	5185	5290	5391	5492	5593	101	101
01	5694	5795	5895	5997	6098	6199	6300	6401	6502	6603		1-10
02	6704	6805	6906	7007	7108	7209	7310	7411	7512	7612		2-20
03	7713	7814	7915	8016	8117	8218	8319	8420	8521	8622		3-30
04	8723	8823	8924	9025	9126	9227	9328	9429	9530	9631		4-40
05	9732	9832	9933	0034	0135	0236	0337	0438	0538	0639		5-50
06	634.0740	0841	0942	1043	1144	1244	1345	1446	1547	1648		6-60
07	1749	1850	1950	2051	2152	2253	2354	2454	2555	2656		7-70
08	2757	2858	2959	3059	3160	3261	3362	3463	3563	3664		8-80
09	3765	3866	3966	4067	4168	4269	4370	4470	4571	4672		9-90
10	4773	4873	4974	5075	5176	5276	5377	5478	5579	5679		
11	5780	5881	5982	6082	6183	6284	6385	6485	6586	6687		
12	6788	6888	6989	7090	7190	7291	7392	7492	7593	7694		
13	7795	7895	7996	8097	8197	8298	8399	8499	8600	8701		
14	8801	8902	9003	9103	9204	9305	9405	9506	9607	9707		
15	9808	9909	0009	0110	0211	0311	0412	0512	0613	0714		
16	635.0814	0915	1016	1116	1217	1317	1418	1519	1619	1720		
17	1820	1921	2022	2122	2223	2323	2424	2525	2625	2726		
18	2826	2927	3027	3128	3229	3329	3430	3530	3631	3731		
19	3832	3933	4033	4134	4234	4335	4435	4536	4636	4737		
20	4837	4938	5038	5139	5240	5340	5441	5541	5642	5742		
21	5843	5943	6044	6144	6245	6345	6446	6546	6647	6747	100	
22	6848	6948	7049	7149	7249	7350	7450	7551	7651	7752		
23	7852	7953	8053	8154	8254	8355	8455	8555	8656	8756		
24	8857	8957	9058	9158	9259	9359	9459	9560	9660	9761		
25	9861	9961	0062	0162	0263	0363	0464	0564	0664	0765		
26	636.0865	0965	1066	1166	1267	1367	1467	1568	1668	1769		
27	1869	1969	2070	2170	2270	2371	2471	2571	2672	2772		
28	2873	2973	3073	3173	3274	3374	3475	3575	3675	3775		
29	3876	3976	4076	4177	4277	4377	4478	4578	4678	4779		
30	4879	4979	5080	5180	5280	5380	5481	5581	5681	5782		
31	5882	5982	6082	6183	6283	6383	6483	6584	6684	6784		
32	6884	6985	7085	7185	7285	7386	7486	7586	7686	7787		
33	7887	7987	8087	8188	8288	8388	8488	8588	8689	8789		
34	8889	8989	9089	9190	9290	9390	9490	9590	9691	9791		
35	9891	9991	0091	0192	0292	0392	0492	0592	0692	0793		
36	637.0893	0993	1093	1193	1293	1393	1494	1594	1694	1794		
37	1894	1994	2094	2195	2295	2395	2495	2595	2695	2795		
38	2895	2995	3096	3196	3296	3396	3496	3596	3696	3796		
39	3897	3997	4097	4197	4297	4397	4497	4597	4697	4797		
40	4897	4997	5097	5197	5297	5398	5498	5598	5698	5798		100
41	5898	5998	6098	6198	6298	6398	6498	6598	6698	6798		1-10
42	6898	6998	7098	7198	7298	7398	7498	7598	7698	7798		2-20
43	7898	7998	8098	8198	8298	8398	8498	8598	8698	8798		3-30
44	8898	8998	9098	9198	9298	9398	9498	9598	9698	9798		4-40
45	9898	9998	0098	0198	0298	0397	0497	0597	0697	0797	99.9	5-50
46	638.0897	0997	1097	1197	1297	1397	1497	1597	1697	1796		6-60
47	1896	1996	2096	2196	2296	2396	2496	2596	2696	2795		7-70
48	2895	2995	3095	3195	3295	3395	3495	3594	3694	3794		8-80
49	3894	3994	4094	4194	4294	4393	4493	4593	4693	4793	99.8	9-90
Num	0	1	2	3	4	5	6	7	8		D	Pro

to 101000.

N. 43500. L. 638

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4350	638.4893	4992	5092	5192	5292	5392	5491	5591	5691	5791		
51	5891	5991	6090	6190	6290	6390	6490	6589	6689	6789		
52	6889	6989	7088	7188	7288	7388	7488	7587	7687	7787		
53	7887	7986	8086	8186	8286	8385	8485	8585	8685	8784		
54	8884	8984	9084	9183	9283	9383	9483	9582	9682	9782	99.7	
55	9882	9981	0081	0181	0280	0380	0480	0580	0679	0779		
56	639.0879	0978	1078	1176	1277	1377	1477	1577	1676	1776		
57	1876	1975	2075	2175	2274	2374	2474	2573	2673	2773		
58	2872	2972	3072	3171	3271	3370	3470	3570	3669	3769	99.6	
59	3869	3968	4068	4168	4267	4367	4466	4566	4666	4765		
4360	4865	4964	5064	5164	5263	5363	5462	5562	5662	5761		99.5
61	5861	5960	6060	6160	6259	6359	6458	6558	6657	6757		1-10
62	6857	6956	7056	7155	7255	7354	7454	7553	7653	7753		2-20
63	7852	7952	8051	8151	8250	8350	8449	8549	8648	8748	99.5	3-30
64	8847	8947	9046	9146	9245	9345	9444	9544	9643	9743		4-40
65	9842	9942	0041	0141	0240	0340	0439	0539	0638	0738		5-50
66	640.0837	0937	1036	1136	1235	1335	1434	1534	1633	1732		6-60
67	1832	1931	2031	2130	2230	2329	2429	2528	2627	2727	99.4	7-70
68	2826	2926	3025	3125	3224	3323	3423	3522	3622	3721		8-80
69	3820	3920	4019	4119	4218	4317	4417	4516	4616	4715		9-90
4370	4814	4914	5013	5112	5212	5311	5411	5510	5609	5709		
71	5808	5907	6007	6106	6205	6305	6404	6503	6603	6702	99.3	
72	6802	6901	7000	7099	7199	7298	7397	7497	7596	7695		
73	7795	7894	7993	8093	8192	8291	8391	8490	8589	8688		
74	8788	8887	8986	9086	9185	9284	9383	9483	9582	9681		
75	9781	9880	9979	0078	0178	0277	0376	0475	0575	0674		
76	641.0773	0872	0972	1071	1170	1269	1369	1468	1567	1666	99.2	
77	1765	1865	1964	2063	2162	2261	2361	2460	2559	2658		
78	2758	2857	2956	3055	3154	3253	3353	3452	3551	3650		
79	3749	3849	3948	4047	4146	4245	4344	4444	4543	4642		
4380	4741	4840	4939	5039	5138	5237	5336	5435	5534	5633	99.1	
81	5733	5832	5931	6030	6129	6228	6327	6426	6525	6625		1-10
82	6724	6823	6922	7021	7120	7219	7318	7417	7516	7616		2-20
83	7715	7814	7913	8012	8111	8210	8309	8408	8507	8606		3-30
84	8705	8804	8904	9003	9102	9201	9300	9399	9498	9597		4-40
85	9696	9795	9894	9993	0092	0191	0290	0389	0488	0587	99	5-49
86	642.0686	0785	0884	0983	1082	1181	1280	1379	1478	1577		6-59
87	1676	1775	1874	1973	2072	2171	2270	2369	2468	2567		7-69
88	2666	2765	2864	2963	3062	3161	3260	3359	3458	3557		8-79
89	3656	3755	3854	3953	4051	4150	4249	4348	4447	4546	98.9	9-89
4390	4645	4744	4843	4942	5041	5140	5239	5338	5437	5535		
91	5634	5733	5832	5931	6030	6129	6228	6327	6426	6524		
92	6623	6722	6821	6920	7019	7118	7217	7315	7414	7513		
93	7612	7711	7810	7909	8007	8106	8205	8304	8403	8502	98.8	
94	8601	8699	8798	8897	8996	9095	9193	9292	9391	9490		
95	9589	9688	9786	9885	9984	0083	0182	0280	0379	0478		
96	643.0577	0676	0774	0873	0972	1071	1170	1268	1367	1466		
97	1565	1663	1762	1861	1960	2058	2157	2256	2355	2453		
98	2552	2651	2750	2848	2947	3046	3145	3243	3342	3441	98.7	
99	3540	3638	3737	3836	3934	4033	4132	4231	4329	4428		
Num	0	1	2	3	4	5	6	7	8	9	D	Prs.

N. 44000 L. 643

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4400	643.4527	4625	4724	4823	4922	5020	5119	5218	5316	5415		99
01	5514	5612	5711	5810	5908	6007	6106	6204	6303	6402		1-10
02	6500	6599	6698	6796	6895	6994	7092	7191	7290	7388	98.6	2-20
03	7487	7585	7684	7783	7881	7980	8079	8177	8276	8374		3-30
04	8473	8572	8670	8769	8867	8966	9065	9163	9262	9360		4-40
05	9459	9558	9656	9755	9853	9952	0051	0149	0248	0346		5-49
06	644.0445	0543	0642	0741	0839	0938	1036	1135	1233	1332		6-59
07	1431	1529	1628	1726	1825	1923	2022	2120	2219	2317	98.5	7-69
08	2416	2514	2613	2711	2810	2908	3007	3105	3204	3302		8-79
09	3401	3499	3598	3696	3795	3893	3992	4090	4189	4287		9-89
4410	4286	4484	4583	4681	4780	4878	4977	5075	5174	5272		98.5
11	5371	5469	5567	5666	5764	5863	5961	6060	6158	6257	98.4	1-10
12	6355	6453	6552	6650	6749	6847	6946	7044	7142	7241		2-20
13	7339	7438	7536	7634	7733	7831	7930	8028	8126	8225		3-30
14	8323	8422	8520	8618	8717	8815	8914	9012	9110	9209		4-39
15	9307	9405	9504	9602	9700	9799	9897	9996	0094	0192		5-49
16	645.0291	0389	0487	0586	0684	0782	0881	0979	1077	1176	98.3	6-59
17	1274	1372	1471	1569	1667	1766	1864	1962	2060	2159		7-69
18	2257	2355	2454	2552	2650	2749	2847	2945	3043	3142		8-79
19	3240	3338	3437	3535	3633	3731	3830	3928	4026	4124		9-89
4420	4223	4321	4419	4517	4616	4714	4812	4910	5009	5107	98.2	
21	5205	5303	5402	5500	5598	5696	5794	5893	5991	6089		
22	6187	6285	6384	6482	6580	6678	6777	6875	6973	7071		
23	7169	7268	7366	7464	7562	7660	7758	7857	7955	8053		
24	8151	8249	8347	8446	8544	8642	8740	8838	8936	9035		
25	9133	9231	9329	9427	9525	9623	9722	9820	9918	0016	98.1	
26	646.0114	0212	0310	0408	0507	0605	0703	0801	0899	0997		
27	1095	1193	1291	1389	1488	1586	1684	1782	1880	1978		
28	2076	2174	2272	2370	2468	2566	2665	2763	2861	2959		
29	3057	3155	3253	3351	3449	3547	3645	3743	3841	3939	98	
4430	4037	4135	4233	4331	4429	4527	4625	4723	4821	4919		98
31	5018	5115	5213	5311	5409	5507	5605	5703	5801	5899		1-10
32	5998	6095	6193	6291	6389	6487	6585	6683	6781	6879		2-20
33	6977	7075	7173	7271	7369	7467	7565	7663	7761	7859		3-29
34	7957	8055	8153	8251	8349	8447	8544	8642	8740	8838	97.9	4-35
35	8936	9034	9132	9230	9328	9426	9524	9622	9720	9817		5-49
36	9915	0013	0111	0209	0307	0405	0503	0601	0698	0796		6-59
37	647.0864	0962	1060	1158	1256	1354	1451	1549	1647	1745		7-69
38	1873	1971	2069	2166	2264	2362	2460	2558	2656	2754	97.8	8-78
39	2851	2949	3047	3145	3243	3341	3438	3536	3634	3732		9-88
4440	3830	3927	4025	4123	4221	4319	4416	4514	4612	4710		
41	4808	4905	5003	5101	5199	5297	5394	5492	5590	5688		
42	5786	5883	5981	6079	6177	6274	6372	6470	6568	6666		
43	6763	6861	6959	7056	7154	7252	7350	7447	7545	7643	97.7	
44	7741	7838	7936	8034	8131	8229	8327	8424	8522	8620		
45	8718	8815	8913	9011	9108	9206	9304	9401	9499	9597		
46	9695	9792	9890	9988	0085	0183	0281	0378	0477	0574		
47	648.0671	0769	0867	0964	1062	1160	1257	1355	1452	1550	97.6	
48	1648	1745	1843	1941	2038	2136	2234	2331	2429	2526		
49	2624	2722	2819	2917	3014	3112	3210	3307	3405	3502		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4450	548	3600	3698	3795	3893	3990	4088	4186	4283	4381	4478	97.5
51		4576	4673	4771	4869	4966	5064	5161	5259	5356	5454	1-10
52		5552	5649	5747	5844	5942	6039	6137	6234	6332	6429	97.5
53		6527	6624	6722	6819	6917	7015	7112	7210	7307	7405	3-25
54		7502	7600	7697	7795	7892	7990	8087	8185	8282	8380	4-35
55		8477	8575	8672	8769	8867	8964	9062	9159	9257	9354	5-45
56		9452	9549	9647	9744	9842	9939	0036	0134	0231	0329	6-55
57	549	0426	0524	0621	0719	0816	0913	1011	1108	1206	1303	97.4
58		1401	1498	1595	1693	1790	1888	1985	2082	2180	2277	8-78
59		2375	2472	2569	2667	2764	2862	2959	3056	3154	3251	9-88
4460		3349	3446	3543	3641	3738	3835	3933	4030	4127	4225	
61		4322	4420	4517	4614	4712	4809	4906	5004	5101	5198	97.3
62		5296	5393	5490	5588	5685	5782	5880	5977	6074	6172	
63		6269	6366	6463	6561	6658	6755	6853	6950	7047	7145	
64		7242	7339	7436	7534	7631	7728	7825	7923	8020	8117	
65		8215	8312	8409	8506	8604	8701	8798	8895	8993	9090	
66		9187	9284	9382	9479	9576	9673	9771	9868	9965	0062	97.2
67	550	0160	0257	0354	0451	0548	0646	0743	0840	0937	1034	
68		1132	1229	1326	1423	1520	1618	1715	1812	1909	2006	
69		2104	2201	2298	2395	2492	2589	2687	2784	2881	2978	
4470		3075	3172	3269	3367	3464	3561	3658	3755	3852	3950	97.1
71		4047	4144	4241	4338	4435	4532	4629	4727	4824	4921	1-10
72		5018	5115	5212	5309	5406	5503	5601	5698	5795	5892	2-15
73		5989	6086	6183	6280	6377	6474	6571	6669	6766	6863	3-25
74		6960	7057	7154	7251	7348	7445	7542	7639	7736	7833	4-35
75		7930	8027	8124	8221	8319	8416	8513	8610	8707	8804	97
76		8901	8998	9095	9192	9289	9386	9483	9580	9677	9774	6-55
77		9871	9968	0065	0162	0259	0356	0453	0550	0647	0744	7-65
78	651	0841	0938	1035	1132	1229	1326	1423	1520	1617	1714	8-78
79		1811	1908	2004	2101	2198	2295	2392	2489	2586	2683	9-87
4480		2780	2877	2974	3071	3168	3265	3362	3459	3556	3652	96.9
81		3749	3846	3943	4040	4137	4234	4331	4428	4525	4622	
82		4719	4815	4912	5009	5106	5203	5300	5397	5494	5590	
83		5687	5784	5881	5978	6075	6172	6269	6365	6462	6559	
84		6656	6753	6850	6947	7043	7140	7237	7334	7431	7528	96.8
85		7624	7721	7818	7915	8012	8109	8205	8302	8399	8496	
86		8593	8689	8786	8883	8980	9077	9173	9270	9367	9464	
87		9561	9657	9754	9851	9948	0045	0141	0238	0335	0432	
88	652	0528	0625	0722	0819	0915	1012	1109	1206	1303	1399	
89		1496	1593	1689	1786	1883	1980	2076	2173	2270	2367	96.7
4490		2463	2560	2657	2754	2850	2947	3044	3140	3237	3334	96.5
91		3431	3527	3624	3721	3817	3914	4011	4107	4204	4301	1-10
92		4397	4494	4591	4687	4784	4881	4977	5074	5171	5267	2-15
93		5364	5461	5557	5654	5751	5847	5944	6041	6137	6234	3-25
94		6331	6427	6524	6621	6717	6814	6910	7007	7104	7200	4-35
95		7297	7394	7490	7587	7683	7780	7877	7973	8070	8166	5-45
96		8263	8360	8456	8553	8649	8746	8843	8939	9036	9132	6-55
97		9229	9325	9422	9519	9615	9712	9808	9905	0001	0098	7-65
98	653	0195	0291	0388	0484	0581	0677	0774	0870	0967	1063	96.5
99		1160	1256	1353	1449	1546	1643	1739	1836	1932	2029	9-87
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 45000. L. 653.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4500	653.2125	2222	2318	2415	2511	2608	2704	2801	2897	2994		96.5
01	3090	3187	3283	3380	3476	3572	3669	3765	3862	3958		1-10
02	4055	4151	4248	4344	4441	4537	4634	4730	4827	4923		2-19
03	5019	5116	5212	5309	5405	5502	5598	5694	5791	5887	96.4	3-29
04	5984	6080	6177	6273	6369	6466	6562	6659	6755	6851		4-39
05	6948	7044	7141	7237	7333	7430	7526	7623	7719	7815		5-48
06	7912	8008	8105	8201	8297	8394	8490	8586	8683	8779		6-58
07	8876	8972	9068	9165	9261	9357	9454	9550	9646	9743		7-68
08	9839	9935	0032	0128	0224	0321	0417	0513	0610	0706	96.3	8-77
09	654.0802	0899	0995	1098	1188	1284	1380	1476	1573	1669		9-87
4510	1765	1862	1958	2054	2151	2247	2343	2439	2536	2632		
11	2728	2824	2921	3017	3113	3210	3306	3402	3498	3595		
12	3691	3787	3883	3980	4076	4172	4268	4365	4461	4557	96.2	
13	4653	4750	4846	4942	5038	5134	5231	5327	5423	5519		
14	5616	5712	5808	5904	6000	6097	6193	6289	6385	6481		
15	6578	6674	6770	6866	6962	7058	7155	7251	7347	7443		
16	7539	7635	7732	7828	7924	8020	8116	8212	8309	8405		
17	8501	8597	8693	8789	8885	8982	9078	9174	9271	9366	96.1	
18	9462	9558	9654	9751	9847	9943	0039	0135	0231	0327		
19	655.0423	0519	0616	0712	0808	0904	1000	1096	1192	1288		
4520	1384	1480	1576	1673	1769	1865	1961	2057	2153	2249		96
21	2345	2441	2537	2633	2729	2825	2921	3017	3113	3209		1-10
22	3306	3402	3498	3594	3690	3786	3882	3978	4074	4170	96.2	2-19
23	4266	4362	4458	4554	4650	4746	4842	4938	5034	5130		3-29
24	5226	5322	5418	5514	5610	5706	5802	5898	5994	6090		4-38
25	6186	6282	6378	6474	6570	6666	6762	6858	6954	7049		5-48
26	7145	7241	7337	7433	7529	7625	7721	7817	7913	8009	95.9	6-58
27	8105	8201	8297	8393	8489	8585	8680	8776	8872	8968		7-67
28	9064	9160	9256	9352	9448	9544	9640	9735	9831	9927		8-77
29	656.0023	0119	0215	0311	0407	0503	0598	0694	0790	0886		9-86
4530	0982	1078	1174	1270	1365	1461	1557	1653	1749	1845		
31	1941	2036	2132	2228	2324	2420	2516	2611	2707	2803	95.8	
32	2899	2995	3091	3186	3282	3378	3474	3570	3666	3761		
33	3857	3953	4049	4145	4240	4336	4432	4528	4624	4719		
34	4815	4911	5007	5102	5198	5294	5390	5486	5581	5677		
35	5773	5859	5954	6050	6146	6242	6337	6433	6529	6625		
36	6730	6826	6922	7018	7113	7209	7305	7401	7496	7592	95.7	
37	7688	7783	7879	7975	8071	8166	8262	8358	8453	8549		
38	8645	8741	8836	8932	9028	9123	9219	9315	9410	9506		
39	9602	9697	9793	9889	9984	0080	0176	0271	0367	0463		
4540	657.0559	0654	0750	0845	0941	1037	1132	1228	1324	1419	95.6	95.5
41	1515	1611	1706	1802	1898	1993	2089	2184	2280	2376		1-10
42	2471	2567	2662	2758	2854	2949	3045	3141	3236	3332		2-19
43	3427	3523	3619	3714	3810	3905	4001	4096	4192	4288		3-29
44	4383	4479	4574	4670	4765	4861	4957	5052	5148	5243		4-38
45	5339	5434	5530	5625	5721	5817	5912	6008	6103	6199	95.5	5-48
46	6294	6390	6485	6581	6676	6772	6867	6963	7058	7154		6-57
47	7250	7345	7441	7536	7632	7727	7823	7918	8014	8109		7-67
48	8205	8300	8395	8491	8586	8682	8777	8873	8968	9064		8-76
49	9159	9255	9350	9446	9541	9637	9732	9828	9923	0018	95.4	9-86
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 45500. L. 658

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4550	658.0114	0209	2305	0400	0496	0591	0687	0782	0877	0973		
51	1068	1164	1259	1355	1450	1545	1641	1736	1832	1927		
52	2023	2118	2213	2309	2404	2499	2595	2690	2786	2881		
53	2977	3072	3167	3263	3358	3453	3549	3644	3739	3835		
54	3930	4026	4121	4216	4312	4407	4502	4598	4693	4788		
55	4884	4979	5074	5170	5265	5360	5456	5551	5646	5742	95.3	
56	5837	5932	6028	6123	6218	6314	6409	6504	6600	6695		
57	6797	6886	6981	7076	7171	7267	7362	7457	7553	7648		
58	7743	7838	7934	8029	8124	8220	8315	8410	8505	8601		
59	8696	8791	8886	8982	9077	9172	9267	9363	9458	9553		
4560	9648	9744	9839	9934	0029	0125	0220	0315	0410	0505	95.2	
61	659.0601	0696	0791	0886	0982	1077	1172	1267	1362	1458		
62	1553	1648	1743	1838	1934	2029	2124	2219	2314	2409		
63	2505	2600	2695	2790	2885	2980	3076	3171	3266	3361		
64	3456	3551	3647	3742	3837	3932	4027	4122	4217	4313	95.1	
65	4408	4503	4598	4693	4788	4883	4979	5074	5169	5264		
66	5359	5454	5549	5644	5739	5835	5930	6025	6120	6215		
67	6310	6405	6500	6595	6690	6786	6881	6976	7071	7166		
68	7261	7356	7451	7546	7641	7736	7831	7926	8021	8116		
69	8212	8307	8402	8497	8592	8687	8782	8877	8972	9067	95	
4570	9162	9257	9352	9447	9542	9637	9732	9827	9922	0017		95
71	660.0112	0207	0302	0397	0492	0587	0682	0777	0872	0967		1-9
72	1062	1157	1252	1347	1442	1537	1632	1727	1822	1917		2-19
73	2012	2107	2202	2297	2392	2487	2582	2677	2772	2867		3-28
74	2962	3056	3151	3246	3341	3436	3531	3626	3721	3816	94.9	4-38
75	3911	4006	4101	4196	4291	4386	4480	4575	4670	4765		5-47
76	4860	4955	5050	5145	5240	5335	5430	5524	5619	5714		6-57
77	5809	5904	5999	6094	6189	6283	6378	6473	6568	6663		7-66
78	6758	6853	6948	7042	7137	7232	7327	7422	7517	7612		8-76
79	7706	7801	7896	7991	8086	8181	8275	8370	8465	8560	94.8	9-85
4580	8655	8750	8844	8939	9034	9129	9224	9318	9413	9508		
81	9603	9698	9792	9887	9982	0077	0172	0266	0361	0456		
82	661.0551	0646	0740	0835	0930	1025	1119	1214	1309	1404		
83	1499	1593	1688	1783	1878	1972	2067	2162	2257	2351		
84	2446	2541	2636	2730	2825	2920	3014	3109	3204	3299	94.7	
85	3393	3488	3583	3677	3772	3867	3962	4056	4151	4246		
86	4341	4435	4530	4625	4719	4814	4909	5003	5098	5193		
87	5287	5382	5477	5571	5666	5761	5855	5950	6045	6139		
88	6234	6329	6423	6518	6613	6707	6802	6897	6991	7086	94.6	
89	7181	7275	7370	7464	7559	7654	7748	7843	7938	8032		
4590	8127	8221	8316	8411	8505	8600	8694	8789	8884	8978		94.5
91	9073	9167	9262	9357	9451	9546	9640	9735	9830	9924		1-9
92	662.0019	0113	0208	0302	0397	0492	0586	0681	0775	0870		2-19
93	0964	1059	1154	1248	1343	1437	1532	1626	1721	1815	94.5	3-28
94	1910	2004	2099	2193	2288	2383	2477	2572	2666	2761		4-38
95	2855	2950	3044	3139	3233	3328	3422	3517	3611	3706		5-47
96	3800	3895	3989	4084	4178	4273	4367	4462	4556	4651		6-57
97	4745	4839	4934	5028	5123	5217	5312	5406	5501	5595		7-66
98	5690	5784	5879	5973	6067	6162	6256	6351	6445	6540	94.4	8-76
99	6634	6728	6823	6917	7012	7106	7201	7295	7389	7484		9-85
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

. 46000. L. 662.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Ps.
00	662.	7578	7673	7767	7861	7950	8050	8145	8239	8333	8428	94.5
01		5522	8617	8711	8805	8900	8994	9089	9183	9277	9372	1--9
02		9466	9560	9655	9749	9844	9938	10032	0127	0221	0315	2--19
03	663.	0410	0504	0598	0693	0787	0881	0976	1070	1164	1259	94.3
04		1353	1447	1542	1636	1730	1825	1919	2013	2108	2202	4--38
05		2296	2391	2485	2579	2674	2768	2862	2956	3051	3145	5--47
06		3239	3334	3428	3522	3616	3711	3805	3899	3994	4088	6--57
07		4182	4276	4371	4465	4559	4653	4748	4842	4936	5030	7--66
08		5125	5219	5313	5407	5502	5596	5690	5784	5879	5973	94.2
09		6067	6161	6255	6350	6444	6538	6632	6727	6821	6915	9--85
10		7009	7103	7198	7292	7386	7480	7574	7669	7763	7857	
11		7951	8045	8140	8234	8328	8422	8516	8610	8705	8799	
12		8893	8987	9081	9175	9270	9364	9458	9552	9646	9740	
13		9835	9929	0023	0117	0211	0305	0399	0493	0588	0682	94.1
14	664.	0776	0870	0964	1058	1152	1246	1341	1435	1529	1623	
15		1717	1811	1905	1999	2093	2187	2282	2376	2470	2564	
16		2658	2752	2846	2940	3034	3128	3222	3316	3411	3505	
17		3599	3693	3787	3881	3975	4069	4163	4257	4351	4445	
18		4539	4633	4727	4821	4915	5009	5103	5197	5292	5386	94.0
19		5480	5574	5668	5762	5856	5950	6044	6138	6232	6326	
20		6420	6514	6608	6702	6796	6890	6984	7078	7172	7266	94
21		7360	7454	7548	7642	7736	7830	7923	8017	8112	8205	1--9
22		8299	8393	8487	8581	8675	8769	8863	8957	9051	9145	2--19
23		9239	9333	9427	9521	9615	9709	9803	9896	9990	0084	93.9
24	665.	0178	0272	0366	0460	0554	0648	0742	0836	0930	1023	3--28
25		1117	1211	1305	1399	1493	1587	1681	1775	1868	1962	4--38
26		2056	2150	2244	2338	2432	2526	2619	2713	2807	2901	5--47
27		2995	3089	3183	3277	3370	3464	3558	3652	3746	3840	6--56
28		3934	4027	4121	4215	4309	4403	4496	4590	4684	4778	7--66
29		4872	4966	5059	5153	5247	5341	5435	5528	5622	5716	8--75
30		5810	5904	5997	6091	6185	6279	6373	6466	6560	6654	9--85
31		6748	6842	6935	7029	7123	7217	7310	7404	7498	7592	
32		7686	7779	7873	7967	8060	8154	8248	8342	8435	8529	93.7
33		8623	8717	8810	8904	8998	9092	9185	9279	9373	9467	
34		9560	9654	9748	9841	9935	0029	0123	0216	0310	0404	
35	666.	0497	0591	0685	0778	0872	0966	1059	1153	1247	1341	
36		1434	1528	1622	1715	1809	1903	1996	2090	2184	2277	
37		2371	2465	2558	2652	2746	2839	2933	3026	3120	3214	93.6
38		3307	3401	3495	3588	3682	3776	3869	3963	4056	4150	
39		4244	4337	4431	4525	4618	4712	4805	4899	4993	5086	
40		5180	5273	5367	5461	5554	5648	5741	5835	5928	6022	93.5
41		6116	6209	6303	6396	6490	6583	6677	6771	6864	6958	1--9
42		7051	7145	7238	7332	7426	7519	7613	7706	7800	7893	2--19
43		7987	8080	8174	8267	8361	8454	8548	8641	8735	8829	3--28
44		8922	9016	9109	9203	9296	9390	9483	9577	9670	9764	4--37
45		9857	9951	0044	0138	0231	0325	0418	0512	0605	0699	5--47
46	667.	0792	0885	0979	1073	1166	1259	1353	1446	1540	1633	6--56
47		1727	1820	1914	2007	2100	2194	2287	2381	2474	2568	93.4
48		2661	2755	2848	2941	3035	3128	3222	3315	3409	3502	7--65
49		3595	3689	3782	3876	3969	4062	4156	4249	4343	4436	8--75
												9--84
Num	0	1	2	3	4	5	6	7	8	9	D	Pr

to 101000.

N. 46500 L. 667.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4650	667.4530	4623	4716	4810	4903	4995	5090	5183	5277	5370		
51	5463	5557	5650	5743	5837	5930	6024	6117	6210	6304		
52	6397	6490	6584	6677	6770	6864	6957	7050	7144	7237	93.3	
53	7331	7424	7517	7610	7704	7797	7890	7984	8077	8170		
54	8264	8357	8450	8544	8637	8730	8824	8917	9010	9104		
55	9197	9290	9383	9477	9570	9663	9757	9850	9943	0036		
56	668.0130	0223	0316	0409	0503	0596	0689	0783	0876	0969		
57	1062	1156	1249	1342	1435	1529	1622	1715	1808	1902	93.2	
58	1995	2088	2181	2274	2368	2461	2554	2647	2741	2834		
59	2927	3020	3113	3207	3300	3393	3486	3580	3673	3766		
4660	3859	3952	4045	4139	4232	4325	4418	4511	4605	4698		
61	4791	4884	4977	5070	5164	5257	5350	5443	5536	5629		
62	5723	5816	5909	6002	6095	6188	6282	6375	6468	6561	93.1	
63	6654	6747	6840	6934	7027	7120	7213	7306	7399	7492		
64	7585	7678	7772	7865	7958	8051	8144	8237	8330	8423		
65	8516	8610	8703	8796	8889	8982	9075	9168	9261	9354		
66	9447	9540	9633	9727	9820	9913	0006	0099	0192	0285		
67	669.0378	0471	0564	0657	0750	0843	0936	1029	1122	1215	93	
68	1308	1401	1494	1588	1681	1774	1867	1960	2053	2146		
69	2239	2332	2425	2518	2611	2704	2797	2890	2983	3076		
4670	3167	3262	3355	3448	3541	3634	3727	3820	3913	4006		93
71	4099	4192	4285	4378	4471	4563	4656	4749	4842	4935	1-9	
72	5028	5121	5214	5307	5400	5493	5586	5679	5772	5865	2-9	2-19
73	5958	6051	6144	6237	6329	6422	6515	6608	6701	6794	3-28	
74	6887	6980	7073	7166	7259	7352	7444	7537	7630	7723	4-37	
75	7816	7909	8002	8095	8188	8281	8373	8466	8559	8652	5-46	
76	8745	8838	8931	9024	9116	9209	9302	9395	9488	9581	6-56	
77	9674	9766	9859	9952	0045	0138	0231	0324	0416	0509	7-65	92.8
78	670.0602	0695	0788	0881	0973	1066	1159	1252	1345	1438	8-74	
79	1530	1623	1716	1809	1902	1994	2087	2180	2273	2366	9-84	
4680	2459	2551	2644	2737	2830	2922	3015	3108	3201	3294		
81	3386	3479	3572	3665	3757	3850	3943	4036	4129	4221		
82	4314	4407	4500	4592	4685	4778	4871	4963	5056	5149	92.7	
83	5242	5334	5427	5520	5612	5705	5798	5891	5983	6076		
84	6169	6262	6354	6447	6540	6632	6725	6818	6910	7003		
85	7096	7189	7281	7374	7467	7559	7652	7745	7837	7930		
86	8023	8115	8208	8301	8393	8486	8579	8671	8764	8857		
87	8950	9042	9135	9227	9320	9413	9505	9598	9691	9783	92.6	
88	9876	9969	0061	0154	0247	0339	0432	0524	0617	0710		
89	671.0802	0895	0988	1080	1173	1265	1358	1451	1543	1636		
4690	1728	1821	1914	2006	2099	2191	2284	2377	2469	2562		92.5
91	2654	2747	2839	2932	3025	3117	3210	3302	3395	3487	1-9	
92	3580	3673	3765	3858	3950	4043	4135	4228	4320	4413	2-18	
93	4506	4598	4691	4783	4876	4968	5061	5153	5246	5338	92.5	3-28
94	5431	5523	5616	5708	5801	5893	5986	6078	6171	6263	4-37	
95	6356	6448	6541	6633	6726	6818	6911	7003	7096	7188	5-46	
96	7281	7373	7466	7558	7651	7743	7836	7928	8021	8113	6-55	
97	8206	8298	8390	8483	8575	8668	8760	8853	8945	9038	7-65	
98	9137	9229	9321	9407	9500	9592	9685	9777	9870	9962	92.4	8-74
99	672.0054	0147	0239	0332	0424	0516	0609	0701	0794	0886	9-83	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

R

N. 47000. L 672.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4700	572.0979	1071	1163	1256	1348	1441	1533	1625	1718	1810		92.5
01	1903	1995	2087	2180	2272	2364	2457	2549	2641	2734		1-9
02	2826	2919	3011	3103	3196	3288	3380	3473	3565	3657		2-18
03	3750	3842	3934	4027	4119	4211	4304	4396	4488	4581	92.3	3-28
04	4673	4765	4858	4950	5042	5135	5227	5319	5412	5504		4-37
05	5596	5689	5781	5873	5965	6058	6150	6242	6335	6427		5-46
06	6519	6611	6704	6796	6888	6981	7073	7165	7257	7350		6-55
07	7442	7534	7626	7719	7811	7903	7995	8088	8180	8272		7-65
08	8365	8457	8549	8641	8733	8826	8918	9010	9102	9195	92.2	8-74
09	9287	9379	9471	9564	9656	9748	9840	9932	0025	0117		9-83
4710	673.0209	0301	0393	0486	0578	0670	0762	0854	0947	1039		
11	1131	1223	1315	1408	1500	1592	1684	1776	1868	1961		
12	2053	2145	2237	2329	2421	2514	2606	2698	2790	2882		
13	2974	3066	3159	3251	3343	3435	3527	3619	3711	3804	92.1	
14	3896	3988	4080	4172	4264	4356	4448	4541	4633	4725		
15	4817	4909	5001	5093	5185	5277	5370	5462	5554	5646		
16	5738	5830	5922	6014	6106	6198	6290	6382	6475	6567		
17	6659	6751	6843	6935	7027	7119	7211	7303	7395	7487		
18	7579	7671	7763	7855	7947	8040	8132	8224	8316	8408	92	
19	8509	8592	8684	8776	8868	8960	9052	9144	9236	9328		
4720	9420	9512	9604	9696	9788	9880	9972	0064	0156	0248		
21	674.0340	0432	0524	0616	0708	0800	0892	0984	1076	1168		
22	1260	1352	1444	1536	1628	1720	1812	1904	1995	2087		
23	2179	2271	2363	2455	2547	2639	2731	2823	2915	3007	91.9	
24	3099	3191	3283	3375	3467	3558	3650	3742	3834	3926		
25	4018	4110	4202	4294	4386	4478	4570	4661	4753	4845		
26	4937	5029	5121	5213	5305	5397	5488	5580	5672	5764		
27	5866	5958	6040	6132	6223	6315	6407	6499	6591	6683		
28	6775	6866	6958	7050	7142	7234	7326	7418	7509	7601	91.8	
29	7693	7785	7877	7969	8060	8152	8244	8336	8428	8520		
4730	8611	8703	8795	8887	8979	9070	9162	9254	9346	9438		92
31	9529	9621	9713	9805	9897	9988	0080	0172	0264	0356		1-9
32	675.0447	0539	0631	0723	0814	0906	0998	1090	1181	1273		2-18
33	1365	1457	1549	1640	1732	1824	1916	2007	2099	2191	91.7	3-28
34	2283	2374	2466	2558	2649	2741	2833	2925	3016	3108		4-37
35	3200	3292	3383	3475	3567	3658	3750	3842	3933	4025		5-46
36	4117	4209	4300	4392	4484	4575	4667	4759	4850	4942		6-55
37	5034	5125	5217	5309	5401	5492	5584	5676	5767	5859		7-64
38	5961	6042	6134	6225	6317	6409	6500	6592	6684	6775		8-74
39	6867	6959	7050	7142	7234	7325	7417	7508	7600	7692	91.6	9-83
4740	7783	7875	7967	8058	8150	8241	8333	8425	8516	8608		
41	8700	8791	8883	8974	9066	9157	9249	9341	9432	9524		
42	9615	9707	9799	9890	9982	0073	0165	0256	0348	0440		
43	676.0531	0623	0714	0806	0897	0989	1081	1172	1264	1355		
44	1447	1538	1630	1721	1813	1904	1996	2088	2179	2271	91.5	
45	2362	2454	2545	2637	2728	2820	2911	3003	3094	3186		
46	3277	3369	3460	3552	3643	3735	3826	3918	4009	4101		
47	4192	4284	4375	4467	4558	4650	4741	4833	4924	5016		
48	5107	5199	529	5381	5473	5564	5656	5747	5839	5930		
49	6022	6113	6205	6296	6387	6479	6570	6662	6753	6845	91.1	
Num	0	1	2	3	4	5	6	7	8	9	D	Pre.

to 101000.

N. 47500. L. 676

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4750	576	6936	7027	7119	7210	7302	7393	7485	7576	7667	7759	
51	7850	7942	8033	8124	8216	8307	8399	8490	8581	8673		
52	8764	8856	8947	9038	9130	9221	9313	9404	9495	9587		
53	9678	9769	9861	9952	0044	0135	0226	0318	0409	0500		
54	577	0592	0683	0774	0866	0957	1048	1140	1231	1322	1414	91.3
55	1505	1596	1688	1779	1870	1961	2053	2144	2236	2327		
56	2418	2510	2601	2692	2784	2875	2966	3058	3149	3240		
57	3332	3423	3514	3605	3697	3788	3879	3970	4062	4153		
58	4244	4336	4427	4518	4609	4701	4792	4883	4974	5066		
59	5157	5248	5340	5431	5522	5613	5705	5796	5887	5978	91.2	
4760	6070	6161	6252	6343	6434	6526	6617	6708	6799	6891		
61	6982	7073	7164	7255	7347	7438	7529	7620	7711	7803		
62	7894	7985	8076	8167	8259	8350	8441	8532	8623	8715		
63	8806	8897	8988	9079	9170	9262	9353	9444	9535	9626		
64	9718	9809	9900	9991	0082	0173	0264	0356	0447	0538		
65	678	0629	0720	0811	0902	0994	1085	1176	1267	1358	1449	91.1
66	1540	1631	1723	1814	1905	1996	2087	2178	2269	2360		
67	2452	2543	2634	2725	2816	2907	2998	3089	3180	3271		
68	3362	3454	3545	3636	3727	3818	3909	4000	4091	4182		
69	4273	4364	4455	4546	4637	4728	4820	4911	5002	5093		
4770	5184	5275	5366	5457	5548	5639	5730	5821	5912	6003	91	91
71	6094	6185	6276	6367	6458	6549	6640	6731	6822	6913	1-9	
72	7004	7095	7186	7277	7368	7459	7550	7641	7732	7823	2-18	
73	7914	8005	8096	8187	8278	8369	8460	8551	8642	8733	3-27	
74	8824	8915	9006	9097	9188	9279	9370	9461	9552	9643	4-36	
75	9734	9825	9916	0007	0098	0188	0279	0370	0461	0552	90.9	5-45
76	679	0643	0734	0825	0916	1007	1098	1189	1280	1371	1461	6-55
77	1552	1643	1734	1825	1916	2007	2098	2189	2280	2371		7-64
78	2461	2552	2643	2734	2825	2916	3007	3098	3189	3279		8-73
79	3370	3461	3552	3643	3734	3825	3915	4006	4097	4188		9-82
4780	4279	4370	4461	4551	4642	4733	4824	4915	5006	5097	90.8	
81	5187	5278	5369	5460	5551	5642	5732	5823	5914	6005		
82	6096	6186	6277	6368	6459	6550	6641	6731	6822	6913		
83	7004	7095	7186	7276	7367	7458	7549	7639	7730	7821		
84	7912	8002	8093	8184	8275	8366	8456	8547	8638	8729		
85	8819	8910	9001	9092	9182	9273	9364	9455	9545	9636		
86	9727	9818	9908	9999	0090	0181	0271	0362	0453	0544	90.7	
87	680	0634	0725	0816	0906	0997	1088	1179	1269	1360	1451	
88	1541	1632	1723	1813	1904	1995	2086	2176	2267	2358		
89	2448	2539	2630	2720	2811	2902	2992	3083	3174	3264		
4790	3355	3446	3536	3627	3718	3808	3899	3990	4080	4171	90.5	
91	4262	4352	4443	4534	4624	4715	4806	4896	4987	5077	90.6	1-9
92	5168	5259	5349	5440	5531	5621	5712	5802	5893	5984		2-18
93	6074	6165	6255	6346	6437	6527	6618	6708	6799	6890		3-27
94	6980	7071	7161	7252	7343	7433	7524	7614	7705	7795		4-36
95	7880	7971	8061	8152	8243	8333	8424	8514	8605	8696		5-45
96	8792	8882	8973	9063	9154	9244	9335	9426	9516	9607	90.5	5-54
97	9697	9788	9878	9969	0059	0150	0240	0331	0421	0512		7-63
98	681	0602	0693	0783	0874	0964	1055	1145	1236	1326	1417	8-72
99	1507	1598	1688	1779	1869	1950	2050	2141	2231	2322		9-81

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
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K 2
L

N. 48000. L. 681.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pis.
4800	681.2412	2503	2593	2684	2774	2865	2955	3046	3136	3227		90.5
01	3317	3407	3498	3588	3679	3769	3860	3950	4041	4131	90.4	1-9
02	4222	4312	4402	4493	4583	4674	4764	4855	4945	5035		2-18
03	5126	5216	5307	5397	5487	5578	5668	5759	5849	5940		3-27
04	6030	6120	6211	6301	6392	6482	6572	6663	6753	6843		4-36
05	6934	7024	7115	7205	7295	7386	7476	7567	7657	7747		5-45
06	7838	7928	8018	8109	8199	8289	8380	8470	8560	8651		6-54
07	8741	8832	8922	9012	9103	9193	9283	9374	9464	9554	90.3	7-63
08	9645	9735	9825	9916	0006	0096	0186	0277	0367	0457		8-72
09	682.0548	0638	0728	0819	0909	0999	1090	1180	1270	1360		9-81
4810	1451	1541	1631	1722	1812	1902	1992	2083	2173	2263		
11	2354	2444	2534	2624	2715	2805	2895	2985	3076	3166		
12	3256	3346	3437	3527	3617	3707	3798	3888	3978	4068	90.2	
13	4159	4249	4339	4429	4519	4610	4700	4790	4880	4971		
14	5061	5151	5241	5331	5422	5512	5602	5692	5782	5873		
15	5963	6053	6143	6233	6324	6414	6504	6594	6684	6775		
16	6865	6955	7045	7135	7225	7316	7406	7496	7586	7676		
17	7766	7857	7947	8037	8127	8217	8307	8397	8488	8578	90.1	
18	8668	8758	8848	8938	9028	9119	9209	9299	9389	9479		
19	9569	9659	9749	9840	9930	0020	0110	0200	0290	0380		
4820	683.0470	0560	0651	0741	0831	0921	1011	1101	1191	1281		
21	1371	1461	1551	1642	1732	1822	1912	2002	2092	2182		
22	2272	2362	2452	2542	2632	2722	2812	2902	2992	3083		
23	3173	3263	3353	3443	3533	3623	3713	3803	3893	3983	90	
24	4073	4163	4253	4343	4433	4523	4613	4703	4793	4883		
25	4973	5063	5153	5243	5333	5423	5513	5603	5693	5783		
26	5873	5963	6053	6143	6233	6323	6413	6503	6593	6683		
27	6773	6863	6953	7043	7133	7223	7313	7403	7493	7583		
28	7673	7763	7852	7942	8032	8122	8212	8302	8392	8482	89.9	
29	8572	8662	8752	8842	8932	9022	9112	9202	9291	9381		
4830	9471	9561	9651	9741	9831	9921	0011	0101	0191	0280		90
31	684.0370	0460	0550	0640	0730	0820	0910	1000	1089	1179		1-9
32	126.1359	1449	1539	1629		1719	1808	1898	1988	2078		2-18
33	2168	2258	2348	2437	2527	2617	2707	2797	2887	2977		3-27
34	3066	3156	3246	3336	3426	3516	3605	3695	3785	3875	89.8	4-36
35	3965	4055	4144	4234	4324	4414	4504	4593	4683	4773		5-45
36	4863	4953	5043	5132	5222	5312	5402	5491	5581	5671		6-54
37	5761	5851	5940	6030	6120	6210	6300	6389	6479	6569		7-63
38	6659	6748	6838	6928	7018	7107	7197	7287	7377	7466		8-72
39	7556	7646	7736	7825	7915	8005	8095	8184	8274	8364	89.7	9-81
4840	8454	8543	8633	8723	8812	8902	8992	9082	9171	9261		
41	9351	9440	9530	9620	9710	9799	9889	9979	0068	0158		
42	685.0248	0337	0427	0517	0607	0696	0786	0876	0965	1055		
43	1145	1234	1324	1414	1503	1593	1683	1772	1862	1952		
44	2041	2131	2221	2310	2400	2490	2579	2669	2758	2848	89.6	
45	2938	3027	3117	3207	3296	3386	3476	3565	3655	3744		
46	3834	3924	4013	4103	4193	4282	4372	4461	4551	4641		
47	4730	4820	4909	4999	5089	5178	5268	5357	5447	5536		
48	5626	5716	5805	5895	5984	6074	6164	6253	6343	6432		
49	6522	6611	6701	6790	6880	6970	7059	7149	7238	7328		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 48500. L. 685

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4850	685.7417	7507	7596	7680	7776	7865	7955	8044	8134	8223	89.5	89.5
51	8313	3402	8492	8581	8671	8760	8850	8939	9029	9118		1—3
52	9208	9297	9387	9476	9566	9655	9745	9834	9924	0013		2—18
53	686.0103	0192	0282	0371	0461	0550	0640	0729	0819	0908		3—27
54	0998	1087	1177	1266	1356	1445	1534	1624	1713	1803		4—36
55	1892	1982	2071	2161	2250	2340	2429	2518	2608	2697	89.4	5—45
56	2787	2876	2966	3055	3144	3234	3323	3413	3502	3592		6—54
57	3681	3770	3860	3949	4039	4128	4217	4307	4396	4486		7—63
58	4575	4664	4754	4843	4933	5022	5111	5201	5290	5380		8—72
59	5469	5558	5648	5737	5826	5916	6005	6095	6184	6273		9—81
4860	6363	6452	6541	6631	6720	6809	6899	6988	7077	7167		
61	7256	7345	7435	7524	7614	7703	7792	7882	7971	8060	89.3	
62	8150	8239	8328	8417	8507	8596	8685	8775	8864	8953		
63	9043	9132	9221	9311	9400	9489	9578	9668	9757	9846		
64	9936	0025	0114	0203	0293	0382	0471	0561	0650	0739		
65	687.0828	0917	1007	1096	1185	1275	1364	1453	1542	1632		
66	1721	1810	1899	1989	2078	2167	2256	2346	2435	2524	89.2	
67	2613	2703	2792	2881	2970	3060	3149	3238	3327	3416		
68	3506	3595	3684	3773	3862	3952	4041	4130	4219	4308		
69	4398	4487	4576	4665	4754	4844	4933	5022	5111	5200		
4870	5290	5379	5468	5557	5646	5735	5825	5914	6003	6092		
71	6181	6270	6360	6449	6538	6627	6716	6805	6894	6984		
72	7073	7162	7251	7340	7429	7518	7608	7697	7786	7875	89.1	
73	7964	8053	8142	8231	8321	8410	8499	8588	8677	8766		
74	8855	8944	9033	9123	9212	9301	9390	9479	9568	9657		
75	9746	9835	9924	0013	0102	0192	0281	0370	0459	0548		
76	688.0537	0726	0815	0904	0992	1082	1171	1260	1349	1438		
77	1528	1617	1706	1795	1884	1973	2062	2151	2240	2329	89	
78	2418	2507	2596	2685	2774	2863	2952	3041	3130	3219		
79	3308	3397	3486	3575	3664	3753	3842	3931	4020	4109		
4880	4198	4287	4376	4465	4554	4643	4732	4821	4910	4999		
81	5088	5177	5266	5355	5444	5533	5622	5711	5800	5889		
82	5978	6067	6156	6245	6334	6422	6511	6600	6689	6778	88.9	
83	6867	6956	7045	7134	7223	7312	7401	7490	7579	7668		
84	7757	7845	7934	8023	8112	8201	8290	8379	8468	8557		
85	8646	8735	8823	8912	9001	9090	9179	9268	9357	9446		
86	9535	9623	9712	9801	9890	9979	0068	0157	0246	0334		
87	689.0423	0512	0601	0690	0779	0868	0957	1045	1134	1223		
88	1312	1401	1490	1578	1667	1756	1845	1934	2023	2111	88.8	
89	2200	2289	2378	2467	2556	2644	2733	2822	2911	3000		
4890	3089	3177	3266	3355	3444	3533	3621	3710	3799	3888		89
91	3977	4065	4154	4243	4332	4421	4509	4598	4687	4776		1—2
92	4864	4953	5042	5131	5220	5308	5397	5486	5575	5663		2—18
93	5752	5841	5930	6018	6107	6196	6285	6373	6462	6551	88.7	3—27
94	6640	6728	6817	6906	6995	7083	7172	7261	7349	7438		4—36
95	7527	7616	7704	7793	7882	7970	8059	8148	8237	8325		5—44
96	8414	8503	8591	8680	8769	8858	8946	9035	9124	9212		6—53
97	9301	9390	9478	9567	9656	9744	9833	9922	0010	0099		7—52
98	690.0188	0276	0365	0454	0542	0631	0720	0808	0897	0986		8—71
99	1074	1163	1252	1340	1429	1518	1606	1695	1783	1872	88.6	9—
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 49000 L. 690

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
900	690.1961	2049	2138	2227	2315	2404	2492	2581	2670	2758		88.5
01	2847	2936	3024	3113	3201	3290	3379	3467	3556	3644		1-5
02	3733	3822	3910	3999	4087	4176	4265	4353	4442	4530		2-18
03	4619	4707	4796	4885	4973	5062	5150	5239	5327	5416		3-27
04	5505	5593	5682	5770	5859	5947	6036	6124	6213	6302		4-35
05	6390	6479	6567	6656	6744	6833	6921	7010	7098	7187	88.5	5-44
06	7275	7364	7452	7541	7629	7718	7806	7895	7984	8072		6-52
07	8161	8249	8338	8426	8515	8603	8692	8780	8869	8957		7-6
08	9046	9134	9222	9311	9399	9488	9576	9665	9753	9842		8-71
09	9930	0019	0107	0196	0284	0373	0461	0550	0638	0726		9-8
1910	691.0815	0903	0992	1080	1169	1257	1346	1434	1522	1611	88.4	
11	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
12	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
13	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
14	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
15	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
16	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
17	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
18	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
19	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4920	9651	9739	9828	9916	0004	0092	0181	0269	0357	0445		
21	692.0534	0622	0710	0798	0887	0975	1063	1151	1240	1328	88.2	
22	1416	1504	1593	1681	1769	1857	1945	2034	2122	2210		
23	2208	2297	2385	2473	2561	2650	2739	2828	2916	3004		
24	3180	3269	3357	3445	3533	3621	3710	3798	3886	3974		
25	4062	4150	4239	4327	4415	4503	4591	4680	4768	4856		
26	4944	5032	5120	5209	5297	5385	5473	5561	5649	5737		
27	5826	5914	6002	6090	6178	6266	6354	6443	6531	6619	88.1	
28	6707	6795	6883	6971	7059	7148	7236	7324	7412	7500		
29	7588	7676	7764	7852	7941	8029	8117	8205	8293	8381		
4930	8469	8557	8645	8733	8821	8910	8998	9086	9174	9262		88
31	9350	9438	9526	9614	9702	9790	9878	9966	0054	0143		1-9
32	693.0231	0319	0407	0495	0583	0671	0759	0847	0935	1023	88	2-18
33	1111	1199	1287	1375	1463	1551	1639	1727	1815	1903		3-26
34	1991	2079	2167	2255	2343	2431	2519	2607	2696	2784		4-35
35	2872	2960	3048	3136	3223	3312	3399	3487	3575	3663		5-44
36	3752	3839	3927	4015	4103	4191	4279	4367	4455	4543		6-53
37	4631	4719	4807	4895	4983	5071	5159	5247	5335	5423		7-62
38	5511	5599	5687	5775	5863	5951	6038	6126	6214	6302	87.9	8-70
39	6390	6478	6566	6654	6742	6830	6918	7006	7094	7182		9-79
940	7269	7357	7445	7533	7621	7709	7797	7885	7973	8061		
41	8149	8236	8324	8412	8500	8588	8676	8764	8852	8939		
42	9027	9115	9203	9291	9379	9467	9555	9642	9730	9818		
43	9906	9994	0082	0170	0257	0345	0433	0521	0609	0697		
44	694.0785	0872	0960	1048	1136	1224	1312	1399	1487	1575	87.8	
45	1663	1751	1839	1926	2014	2102	2190	2278	2365	2453		
46	2541	2629	2717	2805	2892	2980	3068	3156	3243	3331		
47	3419	3507	3595	3682	3770	3858	3946	4034	4121	4209		
48	4297	4385	4472	4560	4648	4736	4824	4911	4999	5087		
49	5175	5262	5350	5438	5525	5613	5701	5789	5876	5964	87.7	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 49500. L. 694.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4950	694	6052	6140	6227	6315	6403	6491	6578	6666	6754	6841	
51		6929	7017	7105	7192	7280	7368	7455	7543	7631	7719	
52		7806	7894	7982	8069	8157	8245	8332	8420	8508	8596	
53		8683	8771	8859	8946	9034	9122	9209	9297	9385	9472	
54		9560	9648	9735	9823	9911	9998	0086	0174	0261	0349	
55	595	0437	0524	0612	0699	0787	0875	0962	1050	1138	1225	87.6
56		1313	1401	1488	1576	1663	1751	1839	1926	2014	2102	
57		2189	2277	2364	2452	2540	2627	2715	2802	2890	2978	
58		3065	3153	3240	3328	3416	3503	3591	3678	3766	3853	
59		3941	4029	4116	4204	4291	4379	4466	4554	4642	4729	
4960		4817	4904	4992	5079	5167	5254	5342	5430	5517	5605	87.5
61		5692	5780	5867	5955	6042	6130	6217	6305	6392	6480	87.5
62		6568	6655	6743	6830	6918	7005	7093	7181	7268	7355	1—9
63		7443	7530	7618	7705	7793	7880	7968	8055	8143	8230	2—17
64		8318	8405	8493	8580	8668	8755	8843	8930	9018	9105	3—26
65		9193	9280	9367	9455	9542	9630	9717	9805	9892	9980	4—35
66	696	0067	0155	0242	0329	0417	0504	0592	0679	0767	0854	5—44
67		0942	1029	1116	1204	1291	1379	1466	1554	1641	1728	6—52
68		1816	1903	1991	2078	2165	2253	2340	2428	2515	2603	7—61
69		2690	2777	2865	2952	3040	3127	3214	3302	3389	3476	8—70
4970		3564	3651	3739	3826	3913	4001	4088	4175	4263	4350	9—79
71		4438	4525	4612	4700	4787	4874	4962	5049	5136	5224	
72		5311	5398	5486	5573	5661	5748	5835	5923	6010	6097	87.3
73		6185	6272	6359	6447	6534	6621	6708	6796	6883	6970	
74		7058	7145	7232	7320	7407	7494	7582	7669	7756	7844	
75		7931	8018	8105	8193	8280	8367	8455	8542	8629	8716	
76		8804	8891	8978	9065	9153	9240	9327	9415	9502	9589	
77		9676	9764	9851	9938	0025	0113	0200	0287	0374	0462	
78	697	0549	0636	0723	0811	0898	0985	1072	1160	1247	1334	87.2
79		1421	1508	1596	1683	1770	1857	1945	2032	2119	2206	
4980		2293	2381	2468	2555	2642	2729	2817	2904	2991	3078	
81		3165	3253	3340	3427	3514	3601	3688	3776	3863	3950	
82		4037	4124	4212	4299	4386	4473	4560	4647	4734	4822	
83		4909	4996	5083	5170	5257	5345	5432	5519	5606	5693	87.1
84		5780	5867	5955	6042	6129	6216	6303	6390	6477	6564	
85		6652	6739	6826	6913	7000	7087	7174	7261	7348	7436	
86		7523	7610	7697	7784	7871	7958	8045	8132	8219	8307	
87		8394	8481	8568	8655	8742	8829	8916	9003	9090	9177	
88		9264	9351	9439	9526	9613	9700	9787	9874	9961	0048	
89	698	0135	0222	0309	0396	0483	0570	0657	0744	0831	0918	87
4990		1005	1092	1179	1266	1354	1441	1528	1615	1702	1789	87
91		1876	1963	2050	2137	2224	2311	2398	2485	2572	2659	1—9
92		2746	2833	2920	3007	3094	3181	3268	3355	3442	3529	2—17
93		3616	3703	3790	3877	3964	4050	4137	4224	4311	4398	3—26
94		4485	4572	4659	4746	4833	4920	5007	5094	5181	5268	4—35
95		5355	5442	5529	5616	5703	5790	5877	5963	6050	6137	86.9
96		6224	6311	6398	6485	6572	6659	6746	6833	6920	7007	5—43
97		7093	7180	7267	7354	7441	7528	7615	7702	7789	7876	6—52
98		7963	8049	8136	8223	8310	8397	8484	8571	8658	8744	7—61
99		8831	8918	9005	9092	9179	9266	9353	9439	9526	9613	8—70
												9—78
Num	0	1	2	3	4	5	6	7	8	9	D	Pts

Num	0	1	2	3	4	5	6	7	8	9	D	Pts,
5000	698.9700	9787	9874	9961	0047	0134	0221	0308	0395	0482		87
01	599.0569	0655	0742	0829	0916	1003	1090	1176	1263	1350	86.8	1-9
02	1437	1524	1610	1697	1784	1871	1958	2045	2131	2218		2-17
03	2305	2392	2479	2565	2652	2739	2826	2913	2999	3086		3-26
04	3173	3260	3347	3433	3520	3607	3694	3780	3867	3954		4-35
05	4041	4128	4214	4301	4388	4475	4561	4648	4735	4822		5-43
06	4908	4995	5082	5169	5255	5342	5429	5516	5602	5689	86.7	6-52
07	5776	5863	5949	6036	6123	6210	6296	6383	6470	6556		7-61
08	6643	6730	6817	6903	6990	7077	7163	7250	7337	7424		8-70
09	7510	7597	7684	7770	7857	7944	8030	8117	8204	8291		9-78
5010	8377	8464	8551	8637	8724	8811	8897	8984	9071	9157		
11	9244	9331	9417	9504	9591	9677	9764	9851	9937	0024	86.6	
12	700.0111	0197	0284	0371	0457	0544	0630	0717	0804	0890		
13	0977	1064	1150	1237	1324	1410	1497	1583	1670	1757		
14	1843	1930	2016	2103	2190	2276	2363	2450	2536	2623		
15	2709	2796	2883	2969	3056	3142	3229	3315	3402	3489		
16	3575	3662	3748	3835	3922	4008	4095	4181	4268	4354		
17	4441	4528	4614	4701	4787	4874	4960	5047	5133	5220	86.5	
18	5307	5393	5480	5566	5653	5739	5826	5912	5999	6085		
19	6172	6258	6345	6431	6518	6605	6691	6778	6864	6951		
5020	7037	7124	7210	7297	7383	7470	7556	7643	7729	7816	86.5	
21	7902	7989	8075	8162	8248	8335	8421	8508	8594	8681		1-9
22	8767	8854	8940	9026	9113	9199	9286	9372	9459	9545		2-17
23	9632	9718	9805	9891	9978	0064	0150	0237	0323	0410		3-26
24	701.0496	0583	0669	0756	0842	0928	1015	1101	1188	1274	86.4	4-35
25	1361	1447	1533	1620	1706	1793	1879	1966	2052	2138		5-43
26	2225	2311	2397	2484	2570	2657	2743	2830	2916	3002		6-52
27	3085	3171	3257	3344	3430	3517	3603	3690	3776	3862		7-61
28	3955	4039	4125	4212	4298	4384	4471	4557	4644	4730		8-69
29	4810	4903	4989	5075	5162	5248	5334	5421	5507	5593	86.3	9-78
5030	5680	5766	5852	5938	6025	6111	6198	6284	6370	6457		
31	6543	6629	6716	6802	6888	6975	7061	7147	7234	7320		
32	7406	7493	7579	7665	7751	7838	7924	8010	8097	8183		
33	8265	8356	8442	8528	8614	8701	8787	8873	8960	9046		
34	9132	9218	9305	9391	9477	9563	9650	9736	9822	9908		
35	9995	0081	0167	0253	0340	0426	0512	0598	0685	0771	86.2	
36	702.0857	0943	1030	1116	1202	1288	1375	1461	1547	1633		
37	1720	1806	1892	1978	2064	2151	2237	2323	2409	2495		
38	2582	2668	2754	2840	2926	3013	3099	3185	3271	3357		
39	3444	3530	3616	3702	3788	3874	3961	4047	4133	4219		
5040	4305	4391	4478	4564	4650	4736	4822	4908	4995	5081		
41	5167	5253	5339	5425	5512	5598	5684	5770	5856	5942	86.1	
42	6028	6114	6201	6287	6373	6459	6545	6631	6717	6804		
43	6890	6976	7062	7148	7234	7320	7406	7492	7579	7665		
44	7751	7837	7923	8009	8095	8181	8267	8353	8439	8526		
45	8612	8698	8784	8870	8956	9042	9128	9214	9300	9386		
46	9472	9558	9645	9731	9817	9903	9989	0075	0161	0247		
47	703.0333	0419	0505	0591	0677	0763	0849	0935	1021	1107	36	
48	1193	1279	1365	1452	1538	1624	1710	1796	1882	1968		
49	2054	2140	2226	2312	2398	2484	2570	2656	2742	2828		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 50500 L. 703

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5050	703.2914	3000	3086	3172	3258	3344	3430	3506	3600	3688		86
51	3774	3860	3946	4032	4118	4204	4289	4375	4461	4547		1-9
52	4633	4719	4805	4891	4977	5063	5149	5235	5321	5407		2-17
53	5493	5579	5665	5751	5837	5923	6009	6095	6180	6266	85.9	3-26
54	6352	6438	6524	6610	6696	6782	6868	6954	7040	7126		4-34
55	7212	7297	7383	7469	7555	7641	7727	7813	7899	7985		5-43
56	8071	8156	8242	8328	8414	8500	8586	8672	8758	8844		6-51
57	8930	9015	9101	9187	9273	9359	9444	9531	9616	9702		7-60
58	9788	9874	9960	10046	10132	10217	10303	10389	10475	10561		8-69
59	704.0647	0733	0818	0904	0990	1076	1162	1248	1333	1419	85.8	9-77
5060	1503	1591	1677	1763	1848	1934	2020	2106	2192	2278		
61	2363	2449	2535	2621	2707	2792	2878	2964	3050	3135		
62	3221	3307	3393	3479	3565	3650	3736	3822	3908	3993		
63	4079	4165	4251	4337	4422	4508	4594	4680	4765	4851		
64	4937	5023	5108	5194	5280	5366	5451	5537	5623	5709		
65	5794	5880	5966	6052	6137	6223	6309	6395	6480	6566	85.7	
66	6652	6738	6823	6909	6995	7080	7166	7252	7338	7423		
67	7509	7595	7680	7766	7852	7938	8023	8109	8195	8280		
68	8366	8452	8537	8623	8709	8794	8880	8966	9052	9137		
69	9223	9309	9394	9480	9566	9651	9737	9823	9908	9994		
5070	705.0080	0165	0251	0337	0422	0508	0594	0679	0765	0850		
71	0936	1022	1107	1193	1279	1364	1450	1536	1621	1707	85.6	
72	1792	1878	1964	2049	2135	2221	2306	2392	2477	2563		
73	2649	2734	2820	2905	2991	3077	3162	3248	3333	3419		
74	3505	3590	3676	3761	3847	3933	4018	4104	4189	4275		
75	4360	4446	4532	4617	4703	4788	4874	4959	5045	5131		
76	5216	5302	5387	5473	5558	5644	5729	5815	5900	5986		
77	6072	6157	6243	6328	6414	6499	6585	6670	6756	6841	85.5	
78	6927	7012	7098	7183	7269	7355	7440	7526	7611	7697		
79	7782	7868	7953	8039	8124	8210	8295	8381	8466	8552		
5080	8637	8723	8808	8894	8979	9065	9150	9235	9321	9406		85.5
81	9492	9577	9663	9748	9834	9919	10005	10090	10176	10261		1-9
82	706.0347	0432	0517	0603	0688	0774	0859	0945	1030	1116	85.4	2-17
83	1201	1286	1372	1457	1543	1628	1714	1799	1885	1970		3-26
84	2055	2141	2226	2312	2397	2482	2568	2653	2739	2824		4-34
85	2910	2994	3080	3166	3251	3337	3422	3507	3593	3678		5-43
86	3764	3849	3934	4020	4105	4190	4276	4361	4447	4532		6-51
87	4617	4703	4788	4873	4959	5044	5130	5215	5300	5386		7-60
88	5471	5556	5642	5727	5812	5898	5983	6068	6154	6239	85.3	8-68
89	6325	6410	6495	6580	6666	6751	6836	6922	7007	7092		9-77
5090	7178	7263	7348	7434	7519	7604	7690	7775	7860	7946		
91	8031	8116	8202	8287	8372	8457	8543	8628	8713	8799		
92	8884	8969	9054	9140	9225	9310	9396	9481	9566	9651		
93	9737	9822	9907	9993	10078	10163	10248	10334	10419	10504	85.2	
94	707.0589	0675	0760	0845	0930	1016	1101	1186	1271	1357		
95	1442	1527	1612	1698	1783	1868	1953	2038	2124	2209		
96	2294	2379	2465	2550	2635	2720	2805	2891	2976	3061		
97	3146	3231	3317	3402	3487	3572	3657	3743	3828	3913		
98	3998	4083	4169	4254	4339	4424	4509	4595	4680	4765		
99	4850	4935	5020	5106	5191	5276	5361	5446	5531	5617		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 51000. L. 707.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5100	707.5702	5787	5872	5957	6042	6127	6213	6298	6383	6468	85.1	
01	6553	6638	6723	6808	6894	6979	7064	7149	7234	7319		
02	7405	7490	7575	7660	7745	7830	7915	8000	8085	8171		
03	8256	8341	8426	8511	8596	8681	8766	8851	8936	9022		
04	9107	9192	9277	9362	9447	9532	9617	9702	9787	9872		
05	9957	0042	0128	0213	0298	0383	0468	0553	0638	0723		
06	708.0808	0893	0978	1063	1148	1233	1318	1403	1488	1573	85	
07	1659	1744	1829	1914	1999	2084	2169	2254	2339	2424		
08	2509	2594	2679	2764	2849	2934	3019	3104	3189	3274		
09	3359	3444	3529	3614	3699	3784	3869	3954	4039	4124		
5110	4209	4294	4379	4464	4549	4634	4719	4804	4889	4974		85
11	5059	5144	5229	5314	5399	5484	5569	5654	5738	5823		1-8
12	5908	5993	6078	6163	6248	6333	6418	6503	6588	6673	84.9	2-17
13	6758	6843	6928	7013	7098	7183	7267	7352	7437	7522		3-25
14	7607	7692	7777	7862	7947	8032	8117	8202	8287	8371		4-34
15	8456	8541	8626	8711	8796	8881	8966	9051	9136	9220		5-42
16	9305	9390	9475	9560	9645	9730	9815	9899	9984	0069		6-51
17	709.0154	0239	0324	0409	0494	0578	0663	0748	0833	0918		7-59
18	1003	1088	1172	1257	1342	1427	1512	1597	1682	1766	84.8	8-68
19	1851	1936	2021	2106	2191	2275	2360	2445	2530	2615		9-76
5120	2700	2784	2869	2954	3039	3124	3208	3293	3378	3463		
21	3548	3633	3717	3802	3887	3972	4057	4141	4226	4311		
22	4396	4480	4565	4650	4735	4820	4904	4989	5074	5159		
23	5244	5328	5413	5498	5583	5667	5752	5837	5922	6006		
24	6001	6176	6261	6345	6430	6515	6600	6684	6769	6854	84.7	
25	6939	7023	7108	7193	7278	7362	7447	7532	7617	7701		
26	7786	7871	7955	8040	8125	8210	8294	8379	8464	8548		
27	8633	8718	8803	8887	8972	9057	9141	9226	9311	9395		
28	9480	9565	9649	9734	9819	9904	9988	0073	0158	0242		
29	710.0327	0412	0496	0581	0666	0750	0835	0920	1004	1089		
5130	1174	1258	1343	1428	1512	1597	1682	1766	1851	1935	84.6	
31	2020	2105	2189	2274	2359	2443	2528	2613	2697	2782		
32	2866	2951	3036	3120	3205	3290	3374	3459	3543	3628		
33	3713	3797	3882	3966	4051	4136	4220	4305	4389	4474		
34	4559	4643	4728	4812	4897	4982	5066	5151	5235	5320		
35	5404	5489	5574	5658	5743	5827	5912	5996	6081	6165		
36	6250	6335	6419	6504	6588	6673	6757	6842	6927	7011		
37	7096	7180	7265	7349	7434	7518	7603	7687	7772	7856	84.5	
38	7941	8025	8110	8195	8279	8364	8448	8533	8617	8702		
39	8786	8871	8955	9040	9124	9209	9293	9378	9462	9547		
5140	9631	9716	9800	9885	9969	0054	0138	0223	0307	0392		84.5
41	711.0476	0560	0645	0729	0814	0898	0983	1067	1152	1236		1-8
42	1321	1405	1490	1574	1659	1743	1827	1912	1996	2081		2-17
43	2165	2250	2334	2419	2503	2587	2672	2756	2841	2925	84.4	3-25
44	3010	3094	3178	3263	3347	3432	3516	3601	3685	3769		4-34
45	3854	3938	4023	4107	4191	4276	4360	4445	4529	4613		5-42
46	4698	4782	4867	4951	5035	5120	5204	5288	5373	5457		6-51
47	5542	5626	5710	5795	5879	5964	6048	6132	6217	6301		7-59
48	6385	6470	6554	6638	6723	6807	6891	6976	7060	7145		8-68
49	7229	7313	7398	7482	7566	7651	7735	7819	7904	7988	84.3	9-76
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 51500. L. 711

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5150	711.8072	8157	8241	8325	8410	8494	8578	8663	8747	8831		
51		8915	9000	9084	9168	9253	9337	9421	9506	9590		
52		9759	9843	9927	0011	0096	0180	0264	0349	0433		
53	712.0601	0686	0770	0854	0938	1023	1107	1191	1276	1360		
54		1444	1528	1613	1697	1781	1865	1950	2034	2118		
55		2287	2371	2455	2539	2624	2708	2792	2876	2961	3045	84.2
56		3129	3213	3297	3382	3466	3550	3634	3719	3803	3887	
57		3971	4055	4140	4224	4308	4392	4477	4561	4645	4729	
58		4813	4898	4982	5066	5150	5234	5318	5403	5487	5571	
59		5655	5739	5824	5908	5992	6076	6160	6244	6329	6413	
5160		6497	6581	6665	6749	6834	6918	7002	7086	7170	7254	
61		7339	7423	7507	7591	7675	7759	7843	7928	8012	8096	84.1
62		8180	8264	8348	8432	8516	8601	8685	8769	8853	8937	
63		9021	9105	9189	9274	9358	9442	9526	9610	9694	9778	
64		9862	9946	0030	0115	0199	0283	0367	0451	0535	0619	
65	713.0703	0787	0871	0955	1040	1124	1208	1292	1376	1460		
66		1544	1628	1712	1796	1880	1964	2048	2132	2216	2301	
67		2385	2469	2553	2637	2721	2805	2889	2973	3057	3141	84
68		3225	3309	3393	3477	3561	3645	3729	3813	3897	3981	
69		4065	4149	4233	4317	4401	4485	4569	4653	4737	4821	
5170		4905	4989	5073	5157	5241	5325	5409	5493	5577	5661	84
71		5745	5829	5913	5997	6081	6165	6249	6333	6417	6501	1-8
72		6585	6669	6753	6837	6921	7005	7089	7173	7257	7341	2-17
73		7425	7509	7593	7677	7761	7844	7928	8012	8096	8180	83.9
74		8264	8348	8432	8516	8600	8684	8768	8852	8936	9020	3-25
75		9104	9187	9271	9355	9439	9523	9607	9691	9775	9859	4-34
76		9943	0027	0110	0194	0278	0362	0446	0530	0614	0698	5-42
77	714.0782	0855	0949	1033	1117	1201	1285	1369	1453	1537		6-50
78		1620	1704	1788	1872	1956	2040	2124	2207	2291	2375	7-59
79		2459	2543	2627	2711	2794	2878	2962	3046	3130	3214	8-67
5180		3298	3381	3465	3549	3633	3717	3801	3884	3968	4052	9-76
81		4136	4220	4304	4387	4471	4555	4639	4723	4806	4890	
82		4974	5058	5142	5225	5309	5393	5477	5561	5644	5728	
83		5812	5896	5980	6063	6147	6231	6315	6399	6482	6566	
84		6650	6734	6817	6901	6985	7069	7153	7236	7320	7404	
85		7488	7571	7655	7739	7823	7906	7990	8074	8158	8241	
86		8325	8409	8493	8576	8660	8744	8827	8911	8995	9079	83.7
87		9162	9246	9330	9414	9497	9581	9665	9748	9832	9916	
88	715.0003	0083	0167	0251	0334	0418	0502	0586	0669	0753		
89		0837	0920	1004	1088	1171	1255	1339	1422	1506	1590	
5190		1674	1757	1841	1925	2008	2092	2176	2259	2343	2427	83.5
91		2510	2594	2678	2761	2845	2929	3012	3096	3179	3263	1-8
92		3347	3430	3514	3598	3681	3765	3849	3932	4016	4100	83.6
93		4183	4267	4350	4434	4518	4601	4685	4769	4852	4936	2-17
94		5019	5103	5187	5270	5354	5437	5521	5605	5688	5772	3-25
95		5856	5939	6023	6106	6190	6273	6357	6441	6524	6608	4-33
96		6691	6775	6859	6942	7026	7109	7193	7276	7360	7444	5-42
97		7527	7611	7694	7778	7861	7945	8028	8112	8196	8279	6-50
98		8363	8446	8530	8613	8697	8780	8864	8948	9031	9115	7-58
99		9198	9282	9365	9449	9532	9616	9699	9783	9866	9950	8-67
												9-75
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 52000. L. 716.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5200	715.0033	0117	0200	0284	0367	0451	0534	0618	0701	0785		83.5
01	0869	0952	1035	1119	1202	1286	1369	1453	1536	1620		1-8
02	1703	1787	1870	1954	2037	2121	2204	2288	2371	2455		2-17
03	2538	2622	2705	2789	2872	2956	3039	3122	3206	3289		3-25
04	3373	3456	3540	3623	3707	3790	3874	3957	4040	4124	83.4	4-33
05	4207	4291	4374	4458	4541	4624	4708	4791	4875	4958		5-42
06	5042	5125	5208	5292	5375	5459	5542	5625	5709	5792		6-50
07	5876	5959	6043	6126	6209	6293	6376	6460	6543	6626		7-58
08	6710	6793	6876	6960	7043	7127	7210	7293	7377	7460		8-67
09	7544	7627	7710	7794	7877	7960	8044	8127	8210	8294		9-75
5210	8377	8461	8544	8627	8711	8794	8877	8961	9044	9127	83.3	
11	9211	9294	9377	9461	9544	9627	9711	9794	9877	9961		
12	717.0044	0127	0211	0294	0377	0461	0544	0627	0711	0794		
13	0877	0960	1044	1127	1210	1294	1377	1460	1544	1627		
14	1710	1794	1877	1960	2043	2127	2210	2293	2377	2460		
15	2543	2626	2710	2793	2876	2959	3043	3126	3209	3293		
16	3376	3459	3542	3626	3709	3792	3875	3959	4042	4125		
17	4208	4292	4375	4458	4541	4625	4708	4791	4874	4957	83.2	
18	5041	5124	5207	5290	5374	5457	5540	5623	5706	5790		
19	5873	5956	6039	6123	6206	6289	6372	6455	6539	6622		
5220	6705	6788	6871	6955	7038	7121	7204	7287	7371	7454		
21	7537	7620	7703	7786	7870	7953	8036	8119	8202	8285		
22	8369	8452	8535	8618	8701	8784	8868	8951	9034	9117		
23	9200	9283	9366	9450	9533	9616	9699	9782	9865	9948	83.1	
24	718.0032	0115	0198	0281	0364	0447	0530	0614	0697	0780		
25	0863	0946	1029	1112	1195	1278	1362	1445	1528	1611		
26	1694	1777	1860	1943	2026	2109	2193	2276	2359	2442		
27	2525	2608	2691	2774	2857	2940	3023	3107	3190	3273		
28	3356	3439	3522	3605	3688	3771	3854	3937	4020	4103		
29	4186	4269	4352	4436	4519	4602	4685	4768	4851	4934	83	
5230	5017	5100	5183	5266	5349	5432	5515	5598	5681	5764		83
31	5847	5930	6013	6096	6179	6262	6345	6428	6511	6594		1-8
32	6677	6760	6843	6926	7009	7092	7175	7258	7341	7424		2-17
33	7507	7590	7673	7756	7839	7922	8005	8088	8171	8254		3-25
34	8337	8420	8503	8586	8669	8752	8835	8918	9001	9084		4-33
35	9167	9250	9333	9416	9499	9582	9665	9747	9830	9913		5-41
36	9996	0079	0162	0245	0328	0411	0494	0577	0660	0743	82.5	6-50
37	719.0826	0909	0992	1074	1157	1240	1323	1406	1489	1572		7-58
38	1655	1738	1821	1904	1987	2069	2152	2235	2318	2401		8-66
39	2484	2567	2650	2733	2816	2898	2981	3064	3147	3230		9-75
5240	3313	3396	3479	3561	3644	3727	3810	3893	3976	4059		
41	4142	4224	4307	4390	4473	4556	4639	4722	4804	4887		
42	4970	5053	5136	5219	5301	5384	5467	5550	5633	5716	82.8	
43	5799	5881	5964	6047	6130	6213	6295	6378	6461	6544		
44	6527	6710	6792	6875	6958	7041	7124	7206	7289	7372		
45	7455	7538	7620	7703	7786	7869	7952	8034	8117	8200		
46	8283	8366	8448	8531	8614	8697	8779	8862	8945	9028		
47	9111	9193	9276	9359	9442	9524	9607	9690	9773	9855		
48	9938	0021	0104	0186	0269	0352	0435	0517	0600	0683		
49	720.0766	0845	0931	1014	1097	1179	1262	1345	1428	1510	82.7	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 52500. L 720.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5250	720.1593	1676	1758	1841	1924	2007	2089	2172	2255	2337		
51	2420	2503	2586	2668	2751	2834	2916	2999	3082	3164		
52	3247	3330	3413	3495	3578	3661	3743	3826	3909	3991		
53	4074	4157	4239	4322	4405	4487	4570	4653	4735	4818		
54	4901	4983	5066	5149	5231	5314	5397	5479	5562	5645		
55	5727	5810	5892	5975	6058	6140	6223	6306	6388	6471	82.6	
56	6554	6636	6719	6801	6884	6967	7049	7132	7214	7297		
57	7380	7462	7545	7628	7710	7793	7875	7958	8041	8123		
58	8206	8288	8371	8454	8536	8619	8701	8784	8866	8949		
59	9032	9114	9197	9279	9362	9445	9527	9610	9692	9775		
5260	9857	9940	0023	0105	0188	0270	0353	0435	0518	0600	82.5	
61	721.0683	0766	0848	0931	1013	1096	1178	1261	1343	1426	82.5	1—4
62	1508	1591	1673	1756	1839	1921	2004	2086	2169	2251		2—16
63	2334	2416	2499	2581	2664	2746	2829	2911	2994	3076		3—25
64	3159	3241	3324	3406	3489	3571	3654	3736	3819	3901		4—33
65	3984	4066	4149	4231	4314	4396	4479	4561	4644	4726		5—41
66	4809	4891	4973	5056	5138	5221	5303	5386	5468	5551		6—49
67	5633	5716	5798	5880	5963	6045	6128	6210	6293	6375	82.4	7—58
68	6458	6540	6622	6705	6787	6870	6952	7035	7117	7200		8—66
69	7282	7364	7447	7529	7612	7694	7776	7859	7941	8024		9—74
5270	8106	8189	8271	8353	8436	8518	8601	8683	8765	8848		
71	8930	9013	9095	9177	9260	9342	9424	9507	9589	9672		
72	9754	9836	9919	0001	0083	0166	0248	0331	0413	0495		
73	722.0578	0660	0742	0825	0907	0989	1072	1154	1237	1319		
74	1401	1484	1566	1648	1731	1813	1895	1978	2060	2142	82.3	
75	2225	2307	2389	2472	2554	2636	2719	2801	2883	2966		
76	3048	3130	3212	3295	3377	3459	3542	3624	3706	3789		
77	3871	3953	4035	4118	4200	4282	4365	4447	4529	4612		
78	4694	4776	4858	4941	5023	5105	5187	5270	5352	5434		
79	5517	5599	5681	5763	5846	5928	6010	6092	6175	6257		
5280	6339	6421	6504	6586	6668	6750	6833	6915	6997	7079	82.2	
81	7162	7244	7326	7408	7491	7573	7655	7737	7819	7902		1—8
82	7984	8066	8148	8231	8313	8395	8477	8559	8642	8724		2—16
83	8806	8888	8970	9053	9135	9217	9299	9381	9464	9546		3—24
84	9628	9710	9792	9875	9957	0039	0121	0203	0286	0368		4—32
85	723.0450	0532	0614	0696	0779	0861	0943	1025	1107	1189		5—4
86	1272	1354	1436	1518	1600	1682	1764	1847	1929	2011		6—48
87	2093	2175	2257	2339	2422	2504	2586	2668	2750	2832	82.1	7—56
88	2914	2997	3079	3161	3243	3325	3407	3489	3571	3654		8—64
89	3736	3818	3900	3982	4064	4146	4228	4310	4392	4475		9—7
5290	4557	4639	4721	4803	4885	4967	5049	5131	5213	5295		
91	5378	5460	5542	5624	5706	5788	5870	5952	6034	6116		
92	6198	6280	6362	6444	6527	6609	6691	6773	6855	6937		
93	7019	7101	7183	7265	7347	7429	7511	7593	7675	7757	82	
94	7839	7921	8003	8086	8167	8249	8332	8414	8496	8578		
95	8660	8742	8824	8906	8988	9070	9152	9234	9316	9398		
96	9480	9562	9644	9726	9808	9890	9972	0054	0136	0218		
97	724.0300	0382	0464	0546	0628	0710	0792	0874	0956	1038		
98	1120	1201	1283	1365	1447	1529	1611	1693	1775	1857		
99	1939	2021	2103	2185	2267	2349	2431	2513	2595	2677		
Num	0	1	2	3	4	5	6	7	8	9	D	Pre

N. 52000 L 724.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5300	724-2759	2841	2923	3005	3086	3168	3250	3332	3414	3496	81.9	81
01	3578	3660	3742	3824	3906	3988	4070	4151	4233	4315		1-16
02	4397	4479	4561	4643	4725	4807	4889	4971	5052	5134		2-16
03	5216	5298	5380	5462	5544	5626	5708	5789	5871	5953		3-24
04	6035	6117	6199	6281	6363	6444	6526	6608	6690	6772		4-33
05	6854	6936	7018	7099	7181	7263	7345	7427	7509	7591		5-41
06	7672	7754	7836	7918	8000	8082	8163	8245	8327	8409	81.8	6-45
07	8491	8573	8654	8736	8818	8900	8982	9064	9145	9227		7-57
08	9309	9391	9473	9555	9636	9718	9800	9882	9964	0045		8-60
09	725-0127	0209	0291	0373	0454	0536	0618	0700	0782	0863		9-74
5310	0945	1027	1109	1191	1272	1354	1436	1518	1599	1681		
11	1763	1845	1927	2008	2090	2172	2254	2335	2417	2499		
12	2581	2662	2744	2826	2908	2989	3071	3153	3235	3316	81.7	
13	3398	3480	3562	3643	3725	3807	3889	3970	4052	4134		
14	4216	4297	4379	4461	4542	4624	4706	4787	4869	4951		
15	5033	5114	5196	5278	5359	5441	5523	5605	5686	5768		
16	5850	5931	6013	6095	6176	6258	6340	6422	6503	6585		
17	6667	6748	6830	6912	6993	7075	7157	7238	7320	7402		
18	7483	7565	7647	7728	7810	7892	7973	8055	8137	8218		
19	8300	8382	8463	8545	8626	8708	8790	8871	8953	9035	81.6	
5320	9116	9198	9280	9361	9443	9524	9606	9688	9769	9851		
21	9933	0014	0096	0177	0259	0341	0422	0504	0585	0667		
22	726-0749	0830	0912	0993	1075	1157	1238	1320	1401	1483		
23	1565	1646	1728	1809	1891	1973	2054	2136	2217	2299		
24	2380	2462	2544	2625	2707	2788	2870	2951	3033	3115		
25	3196	3278	3359	3441	3522	3604	3685	3767	3848	3930		
26	4012	4093	4175	4256	4338	4419	4501	4582	4664	4745	81.5	
27	4827	4908	4990	5071	5153	5235	5316	5398	5479	5561		
28	5642	5724	5805	5887	5968	6050	6131	6213	6294	6376		
29	6457	6539	6620	6702	6783	6865	6946	7028	7109	7191		
5330	7272	7354	7435	7516	7598	7679	7761	7842	7924	8005		81.4
31	8087	8168	8250	8331	8413	8494	8576	8657	8738	8820		1-8
32	8901	8983	9064	9146	9227	9309	9390	9471	9553	9634	81.4	2-16
33	9716	9797	9879	9960	0042	0123	0204	0286	0367	0449		3-24
34	727-0530	0611	0693	0774	0856	0937	1019	1100	1181	1263		4-33
35	1344	1426	1507	1588	1670	1751	1833	1914	1995	2077		5-41
36	2156	2240	2321	2402	2484	2565	2646	2728	2809	2891		6-49
37	2972	3053	3135	3216	3297	3379	3460	3542	3623	3704		7-57
38	3786	3867	3948	4030	4111	4192	4274	4355	4436	4518		8-65
39	4599	4681	4762	4843	4925	5006	5087	5169	5250	5331	81.3	9-73
5340	5413	5494	5575	5656	5738	5819	5900	5982	6063	6144		
41	6226	6307	6388	6470	6551	6632	6714	6795	6876	6957		
42	7039	7120	7201	7283	7364	7445	7527	7608	7689	7770		
43	7852	7933	8014	8096	8177	8258	8339	8421	8502	8583		
44	8664	8745	8827	8908	8990	9071	9152	9233	9315	9396		
45	9477	9558	9640	9721	9802	9883	9965	0046	0127	0208	81	
46	728-0290	0371	0452	0533	0614	0696	0777	0858	0939	1021		
47	1102	1183	1264	1345	1427	1508	1589	1670	1752	1833		
48	1914	1995	2076	2158	2239	2320	2401	2482	2564	2645		
49	2726	2807	2888	2969	3051	3132	3213	3294	3375	3457		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 53500. L. 728

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5350	728	3538	3619	3700	3781	3862	3944	4025	4106	4187	4268	
51	4350	4431	4512	4593	4674	4755	4836	4918	4999	5080		
52	5161	5242	5323	5404	5486	5567	5648	5729	5810	5891	81.1	
53	5972	6054	6135	6216	6297	6378	6459	6540	6621	6703		
54	6784	6865	6946	7027	7108	7189	7270	7351	7432	7514		
55	7595	7676	7757	7838	7919	8000	8081	8162	8243	8325		
56	8406	8487	8568	8649	8730	8811	8892	8973	9054	9135		
57	9216	9297	9379	9460	9541	9622	9703	9784	9865	9946		
58	729.0027	7108	7189	7270	7351	7432	7514	7595	7676	7757	81	
59	0838	0919	1000	1081	1162	1243	1324	1405	1486	1567		
5360	1648	1729	1810	1891	1972	2053	2134	2215	2296	2377		81
61	2458	2539	2620	2701	2782	2863	2944	3025	3106	3187		1-8
62	3268	3349	3430	3511	3592	3673	3754	3835	3916	3997		2-16
63	4078	4159	4240	4321	4402	4483	4564	4645	4726	4807		3-24
64	4888	4969	5050	5131	5211	5292	5373	5454	5535	5616		4-32
65	5697	5778	5859	5940	6021	6102	6183	6264	6345	6426	80.9	5-40
66	6507	6588	6669	6749	6830	6911	6992	7073	7154	7235		6-49
67	7316	7397	7478	7559	7640	7720	7801	7882	7963	8044		7-57
68	8125	8206	8287	8368	8449	8530	8610	8691	8772	8853		8-65
69	8934	9015	9096	9177	9258	9338	9419	9500	9581	9662		9-73
5370	9743	9824	9905	9985	0066	0147	0228	0309	0390	0471		
71	730.0552	0632	0713	0794	0875	0956	1037	1117	1198	1279		
72	1360	1441	1522	1603	1683	1764	1845	1926	2007	2088	80.8	
73	2168	2249	2330	2411	2492	2572	2653	2734	2815	2896		
74	2977	3057	3138	3219	3300	3381	3461	3542	3623	3704		
75	3785	3865	3946	4027	4108	4189	4269	4350	4431	4512		
76	4593	4673	4754	4835	4916	4996	5077	5158	5239	5320		
77	5400	5481	5562	5643	5723	5804	5885	5966	6046	6127		
78	6208	6289	6369	6450	6531	6612	6692	6773	6854	6935	80.7	
79	7015	7096	7177	7258	7338	7419	7500	7581	7661	7742		
5380	7823	7903	7984	8065	8146	8226	8307	8388	8468	8549		
81	8630	8711	8791	8872	8953	9033	9114	9195	9275	9356		
82	9437	9518	9598	9679	9760	9840	9921	0002	0082	0163		
83	731.0244	0324	0405	0486	0566	0647	0728	0808	0889	0970		
84	1051	1131	1212	1292	1373	1454	1534	1615	1696	1776		
85	1857	1938	2018	2099	2180	2260	2341	2422	2502	2583	80.6	
86	2663	2744	2825	2905	2986	3067	3147	3228	3308	3389		
87	3470	3550	3631	3712	3792	3873	3953	4034	4115	4195		
88	4276	4356	4437	4518	4598	4679	4759	4840	4921	5001		
89	5082	5162	5243	5324	5404	5485	5565	5646	5726	5807		
5390	5888	5968	6049	6129	6210	6290	6371	6452	6532	6613		80.5
91	6693	6774	6854	6935	7015	7096	7177	7257	7338	7419		1-8
92	7499	7579	7660	7740	7821	7901	7982	8063	8143	8224	80.5	2-16
93	8304	8385	8465	8546	8626	8707	8787	8868	8948	9029		3-24
94	9109	9190	9270	9351	9431	9512	9592	9673	9753	9834		4-32
95	9914	9995	0075	0156	0236	0317	0397	0478	0558	0639		5-4
96	732.0719	0800	0880	0961	1041	1122	1202	1283	1363	1444		6-48
97	1524	1605	1685	1766	1846	1926	2007	2087	2168	2248		7-56
98	2329	2409	2490	2570	2651	2731	2811	2892	2972	3053	80.4	8-54
99	3133	3214	3294	3375	3455	3535	3616	3696	3777	3857		9-72
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

√ 54000. L. 732.

Logarithms

Vum	0	1	2	3	4	5	6	7	8	9	D	Pts
400	732.3938	4018	4098	4179	4259	4340	4420	4500	4581	4661		80.5
01	4742	4822	4903	4983	5063	5144	5224	5305	5385	5465		1—8
02	5546	5626	5707	5787	5867	5948	6028	6108	6189	6269		2—16
03	6350	6430	6510	6591	6671	6752	6832	6912	6993	7073		3—24
04	7152	7234	7314	7394	7475	7555	7636	7716	7796	7877		4—32
05	7957	8037	8118	8198	8278	8359	8439	8519	8600	8680	80.35	5—40
06	8760	8841	8921	9001	9082	9162	9242	9323	9403	9483		6—48
07	9564	9644	9724	9805	9885	9965	0046	0126	0206	0286		7—56
08	733.0367	0447	0527	0608	0688	0768	0849	0929	1009	1089		8—64
09	1170	1250	1330	1411	1491	1571	1651	1732	1812	1892		9—72
410	1973	2053	2133	2213	2294	2374	2454	2534	2615	2695		
11	2775	2856	2936	3016	3096	3177	3257	3337	3417	3498		
12	3579	3658	3738	3819	3899	3979	4059	4140	4220	4300	80.2	
13	4380	4460	4541	4621	4701	4781	4862	4942	5022	5102		
14	5183	5263	5343	5423	5503	5584	5664	5744	5824	5904		
15	5985	6065	6145	6225	6305	6380	6466	6546	6626	6706		
16	6787	6867	6947	7027	7107	7187	7268	7348	7428	7508		
17	7588	7668	7749	7829	7909	7989	8069	8149	8230	8310		
18	8390	8470	8550	8630	8711	8791	8871	8951	9031	9111		
19	9192	9272	9352	9432	9512	9592	9672	9752	9833	9913	80.1	
420	9993	0073	0153	0233	0313	0393	0474	0554	0634	0714		80
21	734.0794	0874	0954	1034	1114	1195	1275	1355	1435	1515		1—8
22	1595	1675	1755	1835	1915	1996	2076	2156	2236	2316		2—16
23	2396	2476	2556	2636	2716	2796	2876	2957	3037	3117		3—24
24	3197	3277	3357	3437	3517	3597	3677	3757	3837	3917		4—32
25	3997	4077	4157	4238	4318	4398	4478	4558	4638	4718	80	5—40
26	4798	4878	4958	5038	5118	5198	5278	5358	5438	5518		6—48
27	5598	5678	5758	5838	5918	5998	6078	6158	6238	6318		7—56
28	6398	6478	6558	6638	6718	6798	6878	6958	7038	7118		8—64
29	7198	7278	7358	7438	7518	7598	7678	7758	7838	7918		9—72
5430	7998	8078	8158	8238	8318	8398	8478	8558	8638	8718		
31	8798	8878	8958	9038	9118	9198	9278	9358	9438	9518		
32	9598	9678	9758	9837	9917	9997	0077	0157	0237	0317	79.9	
33	735.0397	0477	0557	0637	0717	0797	0877	0957	1037	1116		
34	1196	1276	1356	1436	1516	1596	1676	1756	1836	1916		
35	1995	2075	2155	2235	2315	2395	2475	2555	2635	2715		
36	2794	2874	2954	3034	3114	3194	3274	3354	3434	3513		
37	3593	3673	3753	3833	3913	3993	4073	4152	4232	4312		
38	4392	4472	4552	4632	4711	4791	4871	4951	5031	5111		
39	5191	5270	5350	5430	5510	5590	5670	5749	5829	5909	79.8	
5440	5999	6069	6149	6228	6308	6388	6468	6548	6628	6707		
41	6787	6867	6947	7027	7106	7186	7266	7346	7426	7506		
42	7585	7665	7745	7825	7905	7984	8064	8144	8224	8304		
43	8383	8463	8543	8623	8702	8782	8862	8942	9022	9101		
44	9181	9261	9341	9420	9500	9580	9660	9740	9819	9899		
45	9979	0059	0138	0218	0298	0378	0457	0537	0617	0697		
46	736.0776	0856	0936	1016	1095	1175	1255	1335	1414	1494	79.7	
47	1574	1653	1733	1813	1893	1972	2052	2132	2212	2291		
48	2371	2451	2530	2610	2690	2770	2849	2929	3009	3088		
49	3168	3248	3327	3407	3487	3567	3646	3726	3806	3885		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 54500. L. 736

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5450	736.3965	4045	4124	4204	4284	4365	4443	4523	4602	4682		
51	4762	4841	4921	5001	5080	5160	5240	5319	5399	5479		
52	5558	5638	5718	5797	5877	5957	6036	6116	6196	6275		
53	6355	6435	6514	6594	6673	6753	6833	6912	6992	7072	79.6	
54	7151	7231	7311	7390	7470	7549	7629	7709	7788	7868		
55	7948	8027	8107	8186	8266	8346	8425	8505	8584	8664		
56	8744	8823	8903	8982	9062	9141	9221	9301	9380	9460		
57	9540	9619	9699	9778	9858	9937	0017	0097	0176	0256		
58	737.0335	0415	0494	0574	0654	0733	0813	0892	0972	1051		
59	1131	1210	1290	1370	1449	1529	1608	1688	1767	1847	79.5	
5460	1926	2006	2086	2165	2245	2324	2404	2483	2563	2642		79.5
61	2722	2801	2881	2960	3040	3119	3199	3278	3358	3437		1-8
62	3517	3596	3676	3755	3835	3914	3994	4073	4153	4232		2-16
63	4312	4391	4471	4550	4630	4709	4789	4868	4948	5027		3-24
64	5107	5186	5266	5345	5425	5504	5584	5663	5743	5822		4-32
65	5902	5981	6061	6140	6219	6299	6378	6458	6537	6617		5-40
66	6696	6776	6855	6935	7014	7093	7173	7252	7332	7411	79.4	6-48
67	7491	7570	7650	7729	7808	7888	7967	8047	8126	8206		7-56
68	8285	8364	8444	8523	8603	8682	8762	8841	8920	9000		8-64
69	9079	9159	9238	9317	9397	9476	9556	9635	9714	9794		9-72
5470	9873	9953	0032	0111	0191	0270	0350	0429	0508	0588		
71	738.0667	0746	0826	0905	0985	1064	1143	1223	1302	1381		
72	1461	1540	1620	1699	1778	1858	1937	2016	2096	2175		
73	2254	2334	2413	2492	2572	2651	2731	2810	2889	2969	79.3	
74	3048	3127	3207	3286	3365	3445	3524	3603	3683	3762		
75	3841	3921	4000	4079	4158	4238	4317	4396	4476	4555		
76	4634	4714	4793	4872	4952	5031	5110	5189	5269	5348		
77	5427	5507	5586	5665	5745	5824	5903	5982	6062	6141		
78	6220	6300	6379	6458	6537	6617	6696	6775	6854	6934		
79	7013	7092	7171	7251	7330	7409	7489	7568	7647	7726		
5480	7806	7885	7964	8043	8123	8202	8281	8360	8439	8519	79.2	
81	8598	8677	8756	8836	8915	8994	9073	9153	9232	9311		
82	9390	9469	9549	9628	9707	9786	9866	9945	0024	0103		
83	739.0182	0262	0341	0420	0499	0578	0658	0737	0816	0895		
84	0974	1054	1133	1212	1291	1370	1450	1529	1608	1687		
85	1766	1845	1925	2004	2083	2162	2241	2320	2400	2479		
86	2558	2637	2716	2795	2875	2954	3033	3112	3191	3270		
87	3350	3429	3508	3587	3666	3745	3824	3904	3983	4062	79.1	
88	4141	4220	4299	4378	4457	4537	4616	4695	4774	4853		
89	4932	5011	5090	5170	5249	5328	5407	5486	5565	5644		
5490	5723	5803	5882	5961	6040	6119	6198	6277	6356	6435		79
91	6514	6593	6673	6752	6831	6910	6989	7068	7147	7226		1-8
92	7305	7384	7463	7542	7622	7701	7780	7859	7938	8017		2-16
93	8096	8175	8254	8333	8412	8491	8570	8649	8728	8807		3-24
94	8887	8966	9045	9124	9203	9282	9361	9440	9519	9598	79	4-32
95	9677	9756	9835	9914	9993	0072	0151	0230	0309	0388		5-39
96	740.0467	0546	0625	0704	0783	0862	0941	1020	1099	1178		6-47
97	1257	1336	1415	1494	1573	1652	1731	1810	1889	1968		7-55
98	2047	2126	2205	2284	2363	2442	2521	2600	2679	2758		8-63
99	2837	2916	2995	3074	3153	3232	3311	3390	3469	3548		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts
												9-71

N

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5500	740.3627	3706	3785	3864	3943	4022	4101	4180	4259	4337		79
01		4416	4495	4574	4653	4732	4811	4890	4969	5048	78.9	1-8
02		5206	5285	5364	5443	5522	5600	5679	5758	5837		2-16
03		5995	6074	6153	6232	6311	6390	6469	6547	6626		3-24
04		6784	6863	6942	7021	7100	7179	7258	7337	7415		4-32
05		7573	7652	7731	7810	7889	7968	8047	8125	8204		5-39
06		8361	8441	8520	8599	8678	8756	8835	8914	8993		6-47
07		9151	9230	9308	9387	9466	9545	9624	9703	9782		7-55
08		9939	0018	0097	0176	0255	0333	0412	0491	0570	78.8	8-63
09	741.0728	0807	0885	0964	1043	1122	1201	1279	1358	1437		9-71
5510		1516	1595	1674	1752	1831	1910	1989	2068	2146		
11		2304	2383	2462	2540	2619	2698	2777	2856	2934		
12		3092	3171	3250	3328	3407	3486	3565	3644	3722		
13		3880	3959	4037	4116	4195	4274	4353	4431	4510		
14		4668	4746	4825	4904	4983	5061	5140	5219	5298		
15		5455	5534	5613	5691	5770	5849	5928	6006	6085	78.7	
16		6243	6321	6400	6479	6557	6636	6715	6794	6872		
17		7030	7109	7187	7266	7345	7423	7502	7581	7659		
18		7817	7896	7974	8053	8132	8210	8289	8368	8447		
19		8604	8683	8761	8840	8919	8997	9076	9155	9233		
5520		9391	9469	9548	9627	9705	9784	9863	9941	0020		
21	742.0177	0256	0335	0413	0492	0571	0649	0728	0807	0885	78.6	
22		0964	1043	1121	1200	1279	1357	1436	1514	1593		
23		1750	1829	1908	1986	2065	2144	2222	2301	2379		
24		2537	2615	2694	2773	2851	2930	3008	3087	3166		
25		3323	3401	3480	3559	3637	3716	3794	3873	3952		
26		4109	4187	4266	4345	4423	4502	4580	4659	4737		
27		4895	4973	5052	5130	5209	5287	5366	5445	5523		
28		5680	5759	5837	5916	5995	6073	6152	6230	6309		
29		6466	6544	6623	6701	6780	6859	6937	7016	7094	78.5	
5530		7251	7330	7408	7487	7565	7644	7722	7801	7879		78.5
31		8037	8115	8194	8272	8351	8429	8508	8586	8665		1-8
32		8822	8900	8979	9057	9136	9214	9293	9371	9450		2-16
33		9607	9685	9764	9842	9921	9999	0078	0156	0235		3-24
34	743.0392	0470	0548	0627	0705	0784	0862	0941	1019	1098		4-31
35		1176	1255	1333	1412	1490	1569	1647	1725	1804		5-39
36		1951	2039	2118	2196	2275	2353	2431	2510	2588	78.4	6-47
37		2745	2824	2902	2980	3059	3137	3216	3294	3373		7-55
38		3530	3608	3686	3765	3843	3922	4000	4078	4157		8-63
39		4314	4392	4470	4549	4627	4706	4784	4862	4941		9-71
5540		5098	5176	5254	5333	5411	5490	5568	5646	5725		
41		5882	5960	6038	6117	6195	6273	6352	6430	6508		
42		6665	6744	6822	6900	6979	7057	7135	7214	7292		
43		7449	7527	7605	7684	7762	7840	7919	7997	8075	78.3	
44		8232	8311	8389	8467	8545	8624	8702	8780	8859		
45		9016	9094	9172	9250	9329	9407	9485	9564	9642		
46		9799	9877	9955	0034	0112	0190	0268	0347	0425		
47	744.0582	0660	0738	0816	0895	0973	1051	1130	1208	1286		
48		1365	1443	1521	1599	1678	1756	1834	1912	1991		
49		2147	2225	2304	2382	2460	2539	2617	2695	2773		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 55500. L. 744

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5550	744	2930	3008	3086	3165	3243	3321	3399	3478	3556	3634	78.2
51		3712	3790	3869	3947	4025	4103	4182	4260	4338	4416	
52		4495	4573	4651	4729	4807	4886	4964	5042	5120	5198	
53		5277	5355	5433	5511	5590	5668	5746	5824	5902	5981	
54		6059	6137	6215	6293	6371	6450	6528	6606	6684	6762	
55		6841	6919	6997	7075	7153	7231	7310	7388	7466	7544	
56		7622	7700	7779	7857	7935	8013	8091	8169	8248	8326	
57		8404	8482	8560	8638	8717	8795	8873	8951	9029	9107	78.1
58		9185	9264	9342	9420	9498	9576	9654	9732	9810	9889	
59		9967	0045	0123	0201	0279	0357	0435	0514	0592	0670	
5550	745	0748	0826	0904	0982	1060	1138	1217	1295	1373	1451	78
61		1529	1607	1685	1763	1841	1919	1997	2076	2154	2232	1-8
62		2310	2388	2466	2544	2622	2700	2778	2856	2934	3012	2-16
63		3091	3169	3247	3325	3403	3481	3559	3637	3715	3793	3-23
64		3871	3949	4027	4105	4183	4261	4339	4418	4496	4574	78 4-31
65		4652	4730	4808	4886	4964	5042	5120	5198	5276	5354	5-39
66		5432	5510	5588	5666	5744	5822	5900	5978	6056	6134	6-47
67		6212	6290	6368	6446	6524	6602	6680	6758	6836	6914	7-55
68		6992	7070	7148	7226	7304	7382	7460	7538	7616	7694	8-52
69		7772	7850	7928	8006	8084	8162	8240	8318	8396	8474	9-70
5570		8552	8630	8708	8786	8864	8942	9020	9098	9176	9254	
71		9332	9409	9487	9565	9643	9721	9799	9877	9955	0033	77.9
72	746	0111	0189	0267	0345	0423	0501	0579	0657	0735	0812	
73		0890	0968	1046	1124	1202	1280	1358	1436	1514	1592	
74		1670	1748	1825	1903	1981	2059	2137	2215	2293	2371	
75		2449	2527	2604	2682	2760	2838	2916	2994	3072	3150	
76		3228	3305	3383	3461	3539	3617	3695	3773	3851	3929	
77		4006	4084	4162	4240	4318	4396	4474	4551	4629	4707	
78		4785	4863	4941	5019	5096	5174	5252	5330	5408	5486	
79		5564	5641	5719	5797	5875	5953	6031	6108	6186	6264	77.8
5580		6342	6420	6498	6575	6653	6731	6809	6887	6965	7042	
81		7120	7198	7276	7354	7431	7509	7587	7665	7743	7820	
82		7908	7976	8054	8132	8209	8287	8365	8443	8521	8598	
83		8676	8754	8832	8910	8987	9065	9143	9221	9298	9376	
84		9454	9532	9610	9688	9765	9843	9921	9998	0076	0154	
85	747	0232	0309	0387	0465	0543	0621	0698	0776	0854	0932	
86		1009	1087	1165	1242	1320	1398	1476	1553	1631	1709	77.7
87		1787	1864	1942	2020	2098	2175	2253	2331	2408	2486	
88		2564	2642	2719	2797	2875	2953	3030	3108	3186	3263	
89		3341	3419	3496	3574	3652	3730	3807	3885	3963	4040	
5590		4118	4196	4273	4351	4429	4506	4584	4662	4740	4817	77.5
91		4895	4973	5050	5128	5206	5283	5361	5439	5516	5594	1-8
92		5672	5749	5827	5905	5982	6060	6138	6215	6293	6370	2-15
93		6448	6526	6603	6681	6759	6836	6914	6992	7069	7147	77.6 3-23
94		7225	7302	7380	7457	7535	7613	7690	7768	7846	7923	4-31
95		8001	8078	8156	8234	8311	8389	8467	8544	8622	8699	5-39
96		8777	8855	8932	9010	9087	9165	9243	9320	9398	9475	6-46
97		9553	9631	9708	9786	9863	9941	0019	0096	0174	0251	7-54
98	748	0329	0406	0484	0562	0639	0717	0794	0872	0949	1027	8-52
99		1105	1182	1260	1337	1415	1492	1570	1648	1725	1803	9-70
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 56000. L. 748.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5600	748.1880	1958	2035	2113	2190	2268	2346	2423	2501	2578	77.5	77.5
01	2656	2733	2811	2888	2966	3043	3121	3198	3276	3353		1-8
02	3431	3509	3586	3664	3741	3819	3896	3974	4051	4129		2-15
03	4206	4284	4361	4439	4516	4594	4671	4749	4826	4904		3-23
04	4981	5059	5136	5214	5291	5369	5446	5524	5601	5679		4-31
05	5756	5834	5911	5989	6066	6144	6221	6298	6376	6453		5-39
06	6531	6608	6686	6763	6841	6918	6996	7073	7151	7228		6-46
07	7306	7383	7460	7538	7615	7693	7770	7848	7925	8003	77.4	7-54
08	8080	8157	8235	8312	8390	8467	8545	8622	8699	8777		8-62
09	8854	8932	9009	9087	9164	9241	9319	9396	9474	9551		9-70
5610	9629	9706	9783	9861	9938	0016	0093	0170	0248	0325		
11	749.0420	0480	0557	0635	0712	0790	0867	0944	1022	1099		
12	1177	1254	1331	1409	1486	1563	1641	1718	1796	1873		
13	1950	2028	2105	2182	2260	2337	2415	2492	2569	2647		
14	2724	2801	2879	2956	3033	3111	3188	3266	3343	3420		
15	3498	3575	3652	3730	3807	3884	3962	4039	4116	4194	77.3	
16	4271	4348	4426	4503	4580	4658	4735	4812	4890	4967		
17	5044	5122	5199	5276	5353	5431	5508	5585	5663	5741		
18	5817	5895	5972	6049	6127	6204	6281	6358	6436	6513		
19	6590	6668	6745	6822	6899	6977	7054	7131	7209	7286		
5620	7363	7440	7518	7595	7672	7749	7827	7904	7981	8059		77
21	8136	8213	8290	8368	8445	8522	8599	8677	8754	8831		1-8
22	8908	8986	9063	9140	9217	9295	9372	9449	9526	9604	77.2	2-15
23	9681	9758	9835	9912	9990	0067	0144	0221	0299	0376		3-23
24	750.0453	0530	0608	0685	0762	0839	0916	0994	1071	1148		4-31
25	1225	1302	1380	1457	1534	1611	1688	1766	1843	1920		5-38
26	1997	2074	2152	2229	2306	2383	2460	2538	2615	2692		6-46
27	2769	2846	2923	3001	3078	3155	3232	3309	3387	3464		7-54
28	3541	3618	3695	3772	3849	3927	4004	4081	4158	4235		8-62
29	4312	4390	4467	4544	4621	4698	4775	4852	4930	5007	77.1	9-69
5630	5084	5161	5238	5315	5392	5470	5547	5624	5701	5778		
31	5855	5932	6009	6087	6164	6241	6318	6395	6472	6549		
32	6626	6704	6781	6858	6935	7012	7089	7166	7243	7320		
33	7398	7475	7552	7629	7706	7783	7860	7937	8014	8091		
34	8168	8245	8322	8400	8477	8554	8631	8708	8785	8862		
35	8939	9016	9093	9170	9247	9324	9402	9479	9556	9633		
36	9710	9787	9864	9941	0018	0095	0172	0249	0326	0403		
37	751.0480	0557	0634	0711	0788	0865	0943	1020	1097	1174	77	
38	1251	1328	1405	1482	1559	1636	1713	1790	1867	1944		
39	2121	2098	2175	2252	2329	2406	2483	2560	2637	2714		
5640	2791	2868	2945	3022	3099	3176	3253	3330	3407	3484		
41	3561	3638	3715	3792	3869	3946	4023	4100	4177	4254		
42	4331	4408	4485	4562	4639	4716	4793	4870	4947	5023		
43	5101	5177	5254	5331	5408	5485	5562	5639	5716	5793		
44	5870	5947	6024	6101	6178	6255	6332	6409	6486	6562	76.9	
45	6639	6716	6793	6870	6947	7024	7101	7178	7255	7332		
46	7409	7486	7563	7640	7717	7794	7871	7948	8025	8101		
47	8178	8255	8332	8409	8485	8562	8639	8716	8793	8870		
48	8947	9024	9101	9178	9255	9331	9408	9485	9562	9639		
49	9716	9793	9869	9946	0023	0100	0177	0254	0331	0408		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 56500. L. 752

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
5650	752.0484	0561	0638	0715	0792	0869	0946	1022	1099	1176		
51	1253	1330	1407	1484	1560	1637	1714	1791	1868	1945	76.8	
52	2022	2098	2175	2252	2329	2406	2482	2559	2636	2713		
53	2790	2867	2943	3020	3097	3174	3251	3328	3404	3481		
54	3558	3635	3712	3788	3865	3942	4019	4096	4172	4249		
55	4326	4403	4480	4556	4633	4710	4787	4864	4940	5017		
56	5094	5171	5248	5324	5401	5478	5555	5631	5708	5785		
57	5862	5939	6015	6092	6169	6246	6322	6399	6476	6553		
58	6629	6706	6783	6860	6936	7013	7090	7167	7243	7320		
59	7397	7474	7550	7627	7704	7781	7857	7934	8011	8088	76.7	
5660	8164	8241	8318	8394	8471	8548	8625	8701	8778	8855		
61	8932	9008	9085	9162	9238	9315	9392	9468	9545	9622		
62	9699	9775	9852	9929	0005	0082	0159	0235	0312	0389		
63	753.0466	0542	0619	0696	0772	0849	0926	1002	1079	1156		
64	1232	1309	1386	1462	1539	1616	1692	1769	1846	1922		
65	1999	2076	2152	2229	2306	2382	2459	2536	2612	2689		
66	2766	2842	2919	2996	3072	3149	3226	3302	3379	3455	76.6	
67	3532	3609	3685	3762	3839	3915	3992	4068	4145	4222		
68	4298	4375	4452	4528	4605	4681	4758	4835	4911	4988		
69	5065	5141	5218	5294	5371	5448	5524	5601	5677	5754		
5670	5831	5907	5984	6060	6137	6213	6290	6367	6443	6520	76.5	
71	6596	6673	6750	6826	6903	6979	7056	7132	7209	7286	1-8	
72	7362	7439	7515	7592	7668	7745	7822	7898	7975	8051	2-15	
73	8128	8204	8281	8357	8434	8511	8587	8664	8740	8817	76.5	3-23
74	8893	8970	9046	9123	9199	9276	9352	9429	9506	9582	4-31	
75	9659	9735	9812	9888	9965	0041	0118	0194	0271	0347	5-38	
754.0424	0500	0577	0653	0730	0806	0883	0959	1036	1112	1189	6-46	
77	1189	1265	1342	1418	1495	1571	1648	1724	1801	1877	7-54	
78	1954	2030	2107	2183	2260	2336	2413	2489	2566	2642	8-61	
79	2719	2795	2872	2948	3025	3101	3177	3254	3330	3407	9-69	
5680	3483	3560	3636	3713	3789	3866	3942	4018	4095	4171		
81	4248	4324	4401	4477	4554	4630	4707	4783	4859	4936	76.4	
82	5012	5089	5165	5242	5318	5394	5471	5547	5624	5700		
83	5777	5853	5929	6006	6082	6159	6235	6311	6388	6464		
84	6541	6617	6693	6770	6846	6923	6999	7075	7152	7228		
85	7305	7381	7457	7534	7610	7687	7763	7839	7916	7992		
86	8069	8145	8221	8298	8374	8450	8527	8603	8679	8756		
87	8832	8909	8985	9061	9138	9214	9290	9367	9443	9519		
88	9596	9672	9749	9825	9901	9978	0054	0130	0207	0283	76.3	
89	755.0359	0436	0512	0588	0665	0741	0817	0894	0970	1046		
5690	1123	1199	1275	1352	1428	1504	1581	1657	1733	1809	76	
91	1886	1962	2038	2115	2191	2267	2344	2420	2496	2573	1-8	
92	2649	2725	2801	2878	2954	3030	3107	3183	3259	3336	2-15	
93	3412	3488	3564	3641	3717	3793	3869	3946	4022	4098	3-23	
94	4175	4251	4327	4403	4480	4556	4632	4708	4785	4861	4-30	
95	4937	5013	5090	5166	5242	5319	5395	5471	5547	5624	5-38	
96	5700	5776	5852	5928	6005	6081	6157	6233	6310	6386	76.2	6-46
97	6462	6538	6615	6691	6767	6843	6920	6996	7072	7148	7-53	
98	7224	7301	7377	7453	7529	7605	7682	7758	7834	7910	8-61	
99	7987	8063	8139	8215	8291	8368	8444	8520	8596	8672	9-68	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 57000 L. 755.

Logarithms.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5700	755.8749	8845	8901	8977	9053	9129	9206	9282	9358	9434		76
01	9510	9587	9663	9739	9815	9891	9967	0044	0120	0196		1-8
02	756.0272	0348	0424	0501	0577	0653	0729	0805	0881	0958		2-15
03	1034	1110	1186	1262	1338	1414	1491	1567	1643	1719	76.1	3-23
04	1795	1871	1947	2024	2100	2176	2252	2328	2404	2480		4-30
05	2556	2633	2709	2785	2861	2937	3013	3089	3165	3242		5-38
06	3318	3394	3470	3546	3622	3698	3774	3850	3926	4003		6-46
07	4079	4155	4231	4307	4383	4459	4535	4611	4687	4764		7-53
08	4840	4916	4992	5068	5144	5220	5296	5372	5448	5524		8-61
09	5600	5676	5753	5829	5905	5981	6057	6133	6209	6285		9-68
5710	6361	6437	6513	6589	6665	6741	6817	6893	6969	7046		
11	7122	7198	7274	7350	7426	7502	7578	7654	7730	7806	76	
12	7882	7958	8034	8110	8186	8262	8338	8414	8490	8566		
13	8642	8718	8794	8870	8946	9022	9098	9174	9250	9326		
14	9402	9478	9554	9630	9706	9782	9858	9934	0010	0086		
15	757.0162	0238	0314	0390	0466	0542	0618	0694	0770	0846		
16	0922	0998	1074	1150	1226	1302	1378	1454	1530	1606		
17	1682	1758	1834	1910	1986	2062	2138	2214	2290	2366		
18	2442	2517	2593	2669	2745	2821	2897	2973	3049	3125	75.9	
19	3201	3277	3353	3429	3505	3581	3657	3733	3808	3884		
5720	3960	4036	4112	4188	4264	4340	4416	4492	4568	4644		
21	4719	4795	4871	4947	5023	5099	5175	5251	5327	5403		
22	5479	5554	5630	5706	5782	5858	5934	6010	6086	6162		
23	6237	6313	6389	6465	6541	6617	6693	6769	6844	6920		
24	6996	7072	7148	7224	7300	7376	7451	7527	7603	7679		
25	7755	7831	7907	7982	8058	8134	8210	8286	8362	8438		
26	8513	8589	8665	8741	8817	8893	8968	9044	9120	9196	75.8	
27	9272	9348	9423	9499	9575	9651	9727	9803	9879	9954		
28	758.0030	0106	0182	0257	0333	0409	0485	0561	0637	0712		
29	0788	0864	0940	1016	1091	1167	1243	1319	1395	1470		
5730	1546	1622	1698	1774	1849	1925	2001	2077	2152	2228		
31	2304	2380	2456	2531	2607	2683	2759	2834	2910	2986		
32	3062	3138	3213	3289	3365	3441	3516	3592	3668	3744		
33	3819	3895	3971	4047	4122	4198	4274	4350	4425	4501	75.7	
34	4577	4653	4728	4804	4880	4956	5031	5107	5183	5258		
35	5334	5410	5486	5561	5637	5713	5789	5864	5940	6016		
36	6091	6167	6243	6319	6394	6470	6546	6621	6697	6773		
37	6848	6924	7000	7076	7152	7227	7303	7378	7454	7530		
38	7605	7681	7757	7832	7908	7984	8059	8135	8211	8287		
39	8362	8438	8514	8589	8665	8741	8816	8892	8968	9043		
5740	9119	9195	9270	9346	9422	9497	9573	9648	9724	9800		
41	9875	9951	0027	0102	0178	0254	0329	0405	0481	0556	75.6	
42	759.0032	0707	0783	0859	0934	1010	1086	1161	1237	1312		
43	1388	1464	1539	1615	1691	1766	1842	1917	1993	2069		
44	2144	2220	2295	2371	2447	2522	2598	2673	2749	2825		
45	2901	2976	3051	3127	3203	3278	3354	3429	3505	3581		
46	3606	3682	3757	3833	3908	4034	4110	4185	4261	4336		
47	4410	4487	4563	4639	4714	4790	4865	4941	5016	5092		
48	5168	5244	5319	5395	5470	5545	5621	5696	5772	5847	75.5	
49	5923	5999	6074	6150	6225	6301	6376	6452	6527	6603		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 57500. L. 759

Num	0	1	2	3	4	5	6	7	8	9	D	Pr.
5750	759	6678	6754	6829	6905	6981	7056	7132	7207	7283	7358	75.5
51	7434	7509	7585	7660	7735	7811	7887	7962	8038	8113		1-8
52	8189	8264	8340	8415	8491	8566	8642	8717	8792	8868		2-10
53	8944	9019	9095	9170	9246	9321	9397	9472	9548	9623		3-2
54	9699	9774	9849	9925	0000	0076	0151	0227	0302	0378		4-30
55	760	0453	0529	0604	0680	0755	0831	0906	0981	1057	1132	5-38
56	1208	1283	1359	1434	1510	1585	1660	1736	1811	1887	75.5	6-45
57	1962	2038	2113	2189	2264	2339	2415	2490	2566	2641		7-53
58	2717	2792	2867	2943	3018	3094	3169	3244	3320	3395		8-60
59	3471	3546	3622	3697	3772	3848	3923	3999	4074	4149		9-68
5760	4225	4300	4376	4451	4526	4602	4677	4753	4828	4903		
61	4979	5054	5129	5205	5280	5356	5431	5506	5582	5657		
62	5733	5808	5883	5959	6034	6109	6185	6260	6336	6410		
63	6486	6562	6637	6712	6788	6863	6938	7014	7089	7164		
64	7244	7319	7395	7466	7541	7616	7692	7767	7842	7918	75.3	
65	7993	8068	8144	8219	8294	8370	8445	8520	8596	8671		
66	8746	8822	8897	8972	9048	9123	9198	9274	9349	9424		
67	9500	9575	9650	9725	9801	9876	9951	0027	0102	0177		
68	761	0253	0328	0403	0478	0554	0629	0704	0779	0855	0930	
69	1005	1081	1156	1231	1306	1382	1457	1532	1608	1683		
5770	1758	1833	1909	1984	2059	2134	2210	2285	2360	2435		
71	2511	2586	2662	2736	2812	2887	2962	3037	3113	3188	75.2	
72	3263	3338	3414	3489	3564	3639	3715	3790	3865	3940		
73	4016	4091	4166	4241	4316	4392	4467	4542	4617	4693		
74	4768	4843	4918	4993	5069	5144	5219	5294	5369	5445		
75	5520	5595	5670	5745	5821	5896	5971	6046	6121	6197		
76	6272	6347	6422	6497	6573	6648	6723	6798	6873	6948		
77	7024	7099	7174	7249	7324	7399	7475	7550	7625	7700		
78	7775	7850	7926	8001	8076	8151	8226	8301	8377	8452		
79	8527	8602	8677	8752	8827	8903	8978	9053	9128	9203	75.1	
5780	9278	9353	9429	9504	9579	9654	9729	9804	9879	9955		
81	762	0030	0105	0180	0255	0330	0405	0480	0555	0631	0706	
82	0781	0856	0931	1006	1081	1156	1231	1307	1382	1457		
83	1532	1607	1682	1757	1832	1907	1982	2058	2133	2208		
84	2283	2358	2433	2508	2583	2658	2733	2808	2883	2959		
85	3034	3109	3184	3259	3334	3409	3484	3559	3634	3709		
86	3784	3859	3934	4009	4084	4160	4235	4310	4385	4460		
87	4535	4610	4685	4760	4835	4910	4985	5060	5135	5210	75	
88	5285	5360	5435	5510	5585	5660	5735	5810	5885	5960		
89	6035	6110	6185	6260	6336	6411	6486	6561	6636	6711		
5790	6786	6861	6936	7011	7086	7161	7236	7311	7386	7461		75
91	7536	7611	7686	7761	7836	7911	7986	8061	8136	8211		1-7
92	8286	8360	8435	8510	8585	8660	8735	8810	8885	8960		2-15
93	9035	9110	9185	9260	9335	9410	9485	9560	9635	9710		3-22
94	9785	9856	9935	0010	0085	0160	0235	0310	0384	0459	74.9	4-30
95	763	0534	0609	0684	0759	0834	0909	0984	1059	1134	1209	5-37
96	1284	1359	1434	1509	1583	1658	1733	1808	1883	1958		6-45
97	2033	2108	2183	2258	2333	2408	2482	2557	2632	2707		7-52
98	2782	2857	2932	3007	3082	3157	3231	3306	3381	3456		8-5
99	3531	3606	3681	3756	3831	3905	3980	4055	4130	4205		9-57
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 58000. L. 763.

Logarithm

(Num)	0	1	2	3	4	5	6	7	8	9	D	Pts.
5800	763.4280	4355	4430	4505	4579	4654	4729	4804	4879	4954		
01	5029	5103	5178	5253	5328	5403	5478	5553	5627	5702	74.8	
02	5777	5852	5927	6002	6077	6151	6226	6301	6376	6451		
03	6526	6600	6675	6750	6825	6900	6975	7050	7124	7199		
04	7274	7349	7424	7498	7573	7648	7723	7798	7873	7947		
05	8022	8097	8172	8247	8321	8396	8471	8546	8621	8695		
06	8770	8845	8920	8995	9069	9144	9219	9294	9369	9443		
07	9518	9593	9668	9743	9817	9892	9967	0042	0116	0191		
08	764.0266	0341	0416	0490	0565	0640	0715	0789	0864	0939		
09	1014	1088	1163	1238	1313	1388	1462	1537	1612	1687		
5810	1761	1836	1911	1986	2060	2135	2210	2284	2359	2434	74.7	75
11	2509	2583	2658	2733	2808	2882	2957	3032	3107	3181	1-7	
12	3256	3331	3405	3480	3555	3630	3704	3779	3854	3928	2-15	
13	4003	4078	4153	4227	4302	4377	4451	4526	4601	4676	3-22	
14	4750	4825	4900	4974	5049	5124	5198	5273	5348	5422	4-30	
15	5497	5572	5647	5721	5796	5871	5945	6020	6095	6169	5-37	
16	6244	6319	6393	6468	6543	6617	6692	6767	6841	6916	6-45	
17	6991	7065	7140	7215	7289	7364	7439	7513	7588	7662	7-52	
18	7737	7812	7886	7961	8036	8110	8185	8260	8334	8409	74.6	8-60
19	8484	8558	8633	8707	8782	8857	8931	9006	9081	9155	9-67	
5820	9230	9304	9379	9454	9528	9603	9678	9752	9827	9901		
21	9976	0051	0125	0200	0274	0349	0424	0498	0573	0647		
22	765.0722	0797	0871	0946	1020	1095	1170	1244	1319	1393		
23	1468	1542	1617	1692	1766	1841	1915	1990	2064	2139		
24	2214	2288	2363	2437	2512	2586	2661	2736	2810	2885		
25	2959	3034	3108	3183	3257	3332	3407	3481	3556	3630		
26	3705	3779	3854	3928	4003	4077	4152	4227	4301	4376	74.5	
27	4450	4525	4599	4674	4748	4823	4897	4972	5046	5121		
28	5195	5270	5344	5419	5493	5568	5642	5717	5791	5866		
29	5941	6015	6090	6164	6239	6313	6388	6462	6537	6611		
5830	6686	6760	6834	6909	6983	7058	7132	7207	7281	7356		74.5
31	7430	7505	7579	7654	7728	7803	7877	7952	8026	8101	1-7	
32	8175	8250	8324	8399	8473	8547	8622	8696	8771	8845	2-15	
33	8920	8994	9069	9143	9218	9292	9366	9441	9515	9590	74.4	3-22
34	9664	9739	9813	9888	9962	0036	0111	0185	0260	0334	4-30	
35	766.0409	0483	0557	0632	0706	0781	0855	0930	1004	1078		5-37
36	1153	1227	1302	1376	1450	1525	1599	1674	1748	1822		6-45
37	1897	1971	2046	2120	2194	2269	2343	2418	2492	2566		7-52
38	2641	2715	2790	2864	2938	3013	3087	3162	3236	3310		8-60
39	3385	3459	3533	3608	3682	3757	3831	3905	3980	4054		9-67
5840	4128	4203	4277	4352	4426	4500	4575	4649	4723	4798		
41	4872	4946	5021	5095	5169	5244	5318	5392	5467	5541	74.3	
42	5616	5690	5764	5838	5913	5987	6061	6136	6210	6284		
43	6359	6433	6507	6582	6656	6730	6805	6879	6953	7028		
44	7102	7176	7251	7325	7399	7474	7548	7622	7696	7771		
45	7845	7919	7994	8068	8142	8217	8291	8365	8439	8514		
46	8588	8662	8737	8811	8885	8959	9034	9108	9182	9257		
47	9331	9405	9479	9554	9628	9702	9777	9851	9925	9999		
48	767.0074	0148	0222	0296	0371	0445	0519	0593	0668	0742		
49	0816	0890	0965	1039	1113	1187	1262	1336	1410	1484	74.2	
(Num)	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 58500. L. 767

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5850	767.1559	1633	1707	1781	1856	1930	2004	2078	2152	2227		
51	23 01	2375	2449	2524	2598	2672	2746	2821	2895	2969		
52	3043	3117	3192	3266	3340	3414	3488	3563	3637	3711		
53	3785	3859	3934	4008	4082	4156	4230	4305	4379	4453		
54	4527	4601	4676	4750	4824	4898	4972	5046	5121	5195		
55	5269	5342	5417	5491	5566	5640	5714	5788	5862	5936		
56	6011	6085	6159	6233	6307	6381	6456	6530	6604	6678		
57	6752	6826	6900	6975	7049	7123	7197	7271	7345	7419	74.1	
58	7494	7568	7642	7716	7790	7864	7938	8013	8087	8161		
59	8235	8309	8383	8457	8531	8606	8680	8754	8828	8902		
5860	8976	9050	9124	9198	9273	9347	9421	9495	9569	9643		
61	9717	9791	9865	9939	0014	0088	0162	0236	0310	0384		
62	768.0458	0532	0606	0680	0754	0829	0903	0977	1051	1125		
63	1199	1273	1347	1421	1495	1569	1643	1717	1791	1866		
64	1940	2014	2088	2162	2236	2310	2384	2458	2532	2606		
65	2680	2754	2828	2902	2976	3050	3124	3198	3272	3347	74	
66	3421	3495	3569	3643	3717	3791	3865	3939	4013	4087		
67	4161	4235	4309	4383	4457	4531	4605	4679	4753	4827		
68	4901	4975	5049	5123	5197	5271	5345	5419	5493	5567		
69	5641	5715	5789	5863	5937	6011	6085	6159	6233	6307		
5870	6381	6455	6529	6603	6677	6751	6825	6899	6973	7047		74
71	7121	7195	7269	7343	7417	7491	7565	7639	7712	7786		1-7
72	7860	7934	8008	8082	8156	8230	8304	8378	8452	8526		2-15
73	8600	8674	8748	8822	8896	8970	9044	9118	9191	9265	73.9	3-22
74	9339	9413	9487	9561	9635	9709	9783	9857	9931	0005		4-30
75	769.0079	0153	0227	0300	0374	0448	0522	0596	0670	0744		5-37
76	0818	0892	0966	1040	1113	1187	1261	1335	1409	1483		6-44
77	1557	1531	1705	1779	1852	1925	2000	2074	2148	2222		7-52
78	2296	2370	2444	2517	2591	2665	2739	2813	2887	2961		8-59
79	3035	3108	3182	3256	3330	3404	3478	3552	3625	3699		9-67
5880	3773	3847	3921	3995	4069	4142	4216	4290	4364	4438		
81	4512	4586	4659	4733	4807	4881	4955	5029	5102	5176	73.8	
82	5200	5324	5398	5472	5545	5619	5693	5767	5841	5915		
83	5988	6062	6136	6210	6284	6358	6431	6505	6579	6653		
84	6727	6800	6874	6948	7022	7096	7169	7243	7317	7391		
85	7465	7538	7612	7686	7760	7834	7907	7981	8055	8129		
86	8203	8276	8350	8424	8498	8571	8645	8719	8793	8867		
87	8940	9014	9088	9162	9235	9309	9383	9457	9530	9604		
88	9678	9752	9825	9899	9973	0047	0120	0194	0268	0342		
89	770.0415	0489	0563	0637	0710	0784	0858	0932	1005	1079	73.7	
5890	1153	1227	1300	1374	1448	1522	1595	1669	1743	1816		
91	1890	1964	2038	2111	2185	2259	2332	2406	2480	2554		
92	2627	2701	2775	2848	2922	2996	3070	3144	3217	3291		
93	3364	3438	3512	3585	3659	3733	3807	3880	3954	4028		
94	4101	4175	4249	4322	4396	4470	4543	4617	4691	4764		
95	4838	4912	4985	5059	5133	5206	5280	5354	5427	5501		
96	5575	5648	5722	5796	5869	5943	6017	6090	6164	6238		
97	6311	6385	6459	6532	6606	6679	6753	6827	6900	6974	73.6	
98	7048	7121	7195	7269	7342	7416	7489	7563	7637	7710		
99	7784	7858	7931	8005	8078	8152	8226	8299	8373	8446		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 59000. L. 770										Logarithm		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5900	770.8520	8594	8667	8741	8814	8888	8962	9035	9109	9182		73.5
01	9256	9338	9403	9477	9550	9624	9698	9771	9845	9918		1—7
02	9992	0066	0139	0212	0286	0360	0433	0507	0581	0654		2—15
03	771.0728	0801	0875	0948	1022	1096	1169	1243	1316	1390		3—22
04	1463	1537	1611	1684	1758	1831	1905	1978	2052	2125		4—29
05	2199	2273	2346	2420	2493	2567	2640	2714	2787	2861	73.5	5—37
06	2934	3008	3081	3155	3229	3302	3376	3449	3523	3596		6—44
07	3670	3743	3817	3890	3964	4037	4111	4184	4258	4331		7—51
08	4405	4478	4552	4625	4699	4772	4846	4919	4993	5066		8—59
09	5140	5213	5287	5360	5434	5507	5581	5654	5728	5801		9—66
5910	5875	5948	6022	6095	6169	6242	6316	6389	6463	6536		
11	6610	6683	6756	6830	6903	6977	7050	7124	7197	7271		
12	7344	7418	7491	7565	7638	7711	7785	7858	7932	8005		
13	8079	8152	8226	8299	8373	8446	8519	8593	8666	8740	73.4	
14	8813	8887	8960	9033	9107	9180	9254	9327	9401	9474		
15	9547	9621	9694	9768	9841	9915	9988	0061	0135	0208		
16	772.0282	0355	0428	0502	0575	0649	0722	0795	0869	0942		
17	1016	1089	1162	1236	1309	1383	1456	1529	1603	1676		
18	1750	1823	1896	1970	2043	2116	2190	2263	2337	2410		
19	2483	2557	2630	2703	2777	2850	2924	2997	3070	3144		
5920	3217	3290	3364	3437	3510	3584	3657	3731	3804	3877		
21	3951	4024	4097	4171	4244	4317	4391	4464	4537	4611	73.3	
22	4684	4757	4831	4904	4977	5051	5124	5197	5271	5344		
23	5417	5491	5564	5637	5711	5784	5857	5931	6004	6077		
24	6150	6224	6297	6370	6444	6517	6590	6664	6737	6810		
25	6883	6957	7030	7103	7177	7250	7323	7397	7470	7543		
26	7616	7690	7763	7836	7910	7983	8056	8129	8203	8276		
27	8349	8422	8496	8569	8642	8716	8789	8862	8935	9009		
28	9082	9155	9228	9302	9375	9448	9521	9595	9668	9741		
29	9814	9888	9961	0034	0107	0181	0254	0327	0400	0474	73.2	
5930	773.0547	0620	0693	0767	0840	0913	0986	1060	1133	1206		
31	1279	1352	1426	1499	1572	1645	1719	1792	1865	1938		
32	2011	2085	2158	2231	2304	2377	2451	2524	2597	2670		
33	2743	2817	2890	2963	3036	3109	3183	3256	3329	3402		
34	3475	3549	3622	3695	3768	3841	3914	3988	4061	4134		
35	4207	4280	4354	4427	4500	4573	4646	4719	4793	4866		
36	4939	5012	5085	5158	5232	5305	5378	5451	5524	5597		
37	5670	5744	5817	5890	5963	6036	6109	6182	6256	6329	73.1	
38	6402	6475	6548	6621	6694	6768	6841	6914	6987	7060		
39	7133	7206	7279	7353	7426	7499	7572	7645	7718	7791		
5940	7864	7938	8011	8084	8157	8230	8303	8376	8449	8522		
41	8595	8669	8742	8815	8888	8961	9034	9107	9180	9253		
42	9326	9400	9473	9546	9619	9692	9765	9838	9911	9984		
43	774.0057	0130	0203	0276	0350	0423	0496	0569	0642	0715		
44	0788	0861	0934	1007	1080	1153	1226	1299	1372	1445		
45	1519	1592	1665	1738	1811	1884	1957	2030	2103	2176	73.	
46	2249	2322	2395	2468	2541	2614	2687	2760	2833	2906		
47	2979	3052	3125	3198	3271	3344	3417	3490	3564	3637		
48	3710	3783	3856	3929	4002	4075	4148	4221	4294	4367		
49	4440	4513	4586	4659	4732	4805	4878	4951	5024	5097		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 59500. L. 774

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5950	774	5170	5243	5314	5389	5462	5535	5608	5681	5753	5826	73
51		5899	5972	6045	6118	6191	6264	6337	6410	6483	6556	1-7
52		6629	6702	6775	6848	6921	6994	7067	7140	7213	7286	2-15
53		7359	7432	7505	7578	7651	7724	7796	7869	7942	8015	3-22
54		8088	8161	8234	8307	8380	8453	8526	8599	8672	8745	4-29
55		8818	8891	8963	9036	9109	9182	9255	9328	9401	9474	5-36
56		9547	9620	9693	9766	9839	9911	9984	0057	0130	0203	6-44
57	775	0276	0349	0422	0495	0568	0640	0713	0786	0859	0932	7-51
58		1005	1078	1151	1224	1297	1369	1442	1515	1588	1661	8-58
59		1734	1807	1880	1952	2025	2098	2171	2244	2317	2390	9-66
5960		2463	2535	2608	2681	2754	2827	2900	2973	3045	3118	
61		3191	3264	3337	3410	3483	3555	3628	3701	3774	3847	72.8
62		3920	3993	4065	4138	4211	4284	4357	4430	4502	4575	
63		4648	4721	4794	4867	4939	5012	5085	5158	5231	5303	
64		5376	5449	5522	5595	5668	5740	5813	5886	5959	6032	
65		6104	6177	6250	6323	6396	6468	6541	6614	6687	6760	
66		6832	6905	6978	7051	7124	7196	7269	7342	7415	7488	
67		7560	7633	7706	7779	7851	7924	7997	8070	8143	8215	
68		8288	8361	8434	8506	8579	8652	8725	8797	8870	8943	
69		9016	9088	9161	9234	9307	9380	9452	9525	9598	9671	
5970		9743	9816	9889	9961	0034	0107	0180	0252	0325	0398	72.7
71	776	0471	0543	0616	0689	0762	0834	0907	0980	1052	1125	
72		1198	1271	1343	1416	1489	1562	1634	1707	1780	1852	
73		1925	1998	2071	2143	2216	2289	2361	2434	2507	2579	
74		2652	2725	2798	2870	2943	3015	3088	3161	3234	3306	
75		3379	3452	3524	3597	3670	3742	3815	3888	3960	4033	
76		4106	4179	4251	4324	4397	4469	4542	4615	4687	4760	
77		4833	4905	4978	5050	5123	5196	5268	5341	5414	5486	
78		5559	5632	5704	5777	5850	5922	5995	6068	6140	6213	72.6
79		6285	6358	6431	6503	6576	6649	6721	6794	6867	6939	
5980		7012	7085	7157	7230	7302	7375	7448	7520	7593	7665	
81		7738	7811	7883	7956	8028	8101	8174	8246	8319	8391	
82		8464	8537	8609	8682	8754	8827	8900	8972	9045	9117	
83		9190	9263	9335	9408	9480	9553	9625	9698	9781	9843	
84		9916	9988	0061	0134	0206	0279	0351	0424	0496	0569	
85	777	0641	0714	0787	0859	0932	1004	1077	1149	1222	1295	
86		1367	1440	1512	1585	1657	1730	1802	1875	1948	2020	72.5
87		2093	2165	2238	2310	2383	2455	2528	2600	2673	2745	
88		2818	2890	2963	3035	3108	3180	3253	3326	3398	3471	
89		3543	3616	3688	3761	3833	3906	3978	4051	4123	4196	
5990		4268	4341	4413	4486	4558	4631	4703	4776	4848	4921	72.5
91		4993	5066	5138	5211	5283	5356	5428	5501	5573	5646	1-7
92		5718	5790	5863	5935	6008	6080	6153	6225	6298	6370	2-14
93		6443	6515	6588	6660	6733	6805	6878	6950	7022	7095	3-22
94		7167	7240	7312	7385	7457	7530	7602	7674	7747	7819	72.4
95		7892	7964	8037	8109	8182	8254	8326	8399	8471	8544	5-36
96		8616	8689	8761	8833	8906	8978	9051	9123	9196	9268	5-43
97		9346	9418	9489	9561	9633	9703	9775	9847	9920	9992	7-51
98	778	0065	0137	0209	0282	0354	0427	0499	0571	0644	0716	8-58
99		0789	0861	0933	1006	1078	1151	1223	1295	1368	1440	9-65
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 60000. L. 778.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6000	778.1512	1585	1657	1730	1802	1874	1947	2019	2091	2164		72.5
01	2236	2309	2381	2453	2526	2598	2670	2743	2815	2888		1-7
02	2960	3032	3105	3177	3249	3322	3394	3466	3539	3611		2-14
03	3683	3756	3828	3900	3973	4045	4117	4190	4262	4334	72.3	3-22
04	4407	4479	4551	4624	4696	4768	4841	4913	4985	5058		4-29
05	5130	5202	5275	5347	5419	5492	5564	5636	5709	5781		5-30
06	5853	5926	5999	6071	6142	6215	6287	6359	6432	6504		6-43
07	6576	6649	6721	6793	6865	6938	7010	7082	7155	7227		7-51
08	7299	7371	7444	7516	7588	7661	7733	7805	7877	7950		8-58
09	8022	8094	8167	8239	8311	8383	8456	8528	8600	8672		9-65
6010	8745	8817	8889	8961	9034	9106	9178	9250	9323	9395		
11	9467	9539	9612	9684	9756	9828	9901	9973	10045	10117	72.2	
12	77.90190	0262	0334	0406	0479	0551	0623	0695	0768	0840		
13	0912	0984	1056	1129	1201	1273	1345	1418	1490	1562		
14	1634	1706	1779	1851	1923	1995	2067	2140	2212	2284		
15	2356	2428	2501	2573	2645	2717	2789	2862	2934	3006		
16	3078	3150	3223	3295	3367	3439	3511	3584	3656	3728		
17	3800	3872	3944	4017	4089	4161	4233	4305	4377	4450		
18	4522	4594	4666	4738	4810	4883	4955	5027	5099	5171		
19	5243	5316	5388	5460	5532	5604	5676	5748	5821	5893	72.1	
6020	5965	6037	6109	6181	6253	6326	6398	6470	6542	6614		
21	6686	6758	6830	6903	6975	7047	7119	7191	7263	7335		
22	7407	7480	7552	7624	7696	7768	7840	7912	7984	8056		
23	8129	8201	8273	8345	8417	8489	8561	8633	8705	8777		
24	8850	8922	8994	9066	9138	9210	9282	9354	9426	9498		
25	9570	9643	9715	9787	9859	9931	10003	10075	10147	10219		
26	78c.0291	0363	0435	0507	0579	0652	0724	0796	0868	0940		
27	1012	1084	1156	1228	1300	1372	1444	1516	1588	1660		
28	1732	1804	1876	1949	2021	2093	2165	2237	2309	2381	72	
29	2453	2525	2597	2669	2741	2813	2885	2957	3029	3101		
6030	3173	3245	3317	3389	3461	3533	3605	3677	3749	3821		72
31	3893	3965	4037	4109	4181	4253	4325	4397	4469	4541		1-7
32	4613	4685	4757	4829	4901	4973	5045	5117	5189	5261		2-14
33	5333	5405	5477	5549	5621	5693	5765	5837	5909	5981		3-22
34	6053	6125	6197	6269	6341	6413	6485	6557	6629	6701		4-29
35	6773	6845	6917	6989	7061	7133	7204	7276	7348	7420		5-36
36	7492	7564	7636	7708	7780	7852	7924	7996	8068	8140	71.9	6-43
37	8212	8284	8356	8428	8499	8571	8643	8715	8787	8859		7-50
38	8931	9003	9075	9147	9219	9291	9363	9434	9506	9578		8-58
39	9650	9722	9794	9866	9938	10010	10082	10154	10226	10297		9-65
6040	781.0369	0441	0513	0585	0657	0729	0801	0873	0945	1016		
41	1088	1160	1232	1304	1376	1448	1520	1592	1663	1735		
42	1807	1879	1950	2023	2095	2167	2238	2310	2382	2454		
43	2526	2598	2670	2741	2813	2885	2957	3029	3101	3173		
44	3245	3316	3388	3460	3532	3604	3676	3747	3819	3891	71.8	
45	3963	4035	4107	4179	4250	4322	4394	4466	4538	4610		
46	4681	4753	4825	4897	4969	5041	5112	5184	5256	5328		
47	5400	5471	5543	5615	5687	5759	5831	5902	5974	6046		
48	6118	6190	6261	6333	6405	6477	6549	6620	6692	6764		
49	6836	6908	6979	7051	7123	7195	7267	7338	7410	7482		
Num	0	1	2	3	4	5	6	7	8	9	D	Prc.

to 101000.

N. 60500. L. 781

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6050	781.7554	7625	7697	7769	7841	7913	7984	8056	8128	8200		
51	8271	8343	8415	8487	8559	8630	8702	8774	8846	8917		
52	8989	9061	9133	9204	9276	9348	9420	9491	9563	9635		
53	9707	9778	9850	9922	9994	0065	0137	0209	0281	0352	71.7	
54	782.0424	0496	0568	0639	0711	0783	0855	0926	0998	1070		
55	1141	1213	1285	1357	1428	1500	1572	1643	1715	1787		
56	1859	1930	2002	2074	2145	2217	2289	2361	2432	2504		
57	2576	2647	2719	2791	2862	2934	3006	3078	3149	3221		
58	3293	3364	3436	3508	3579	3651	3723	3794	3866	3938		
59	4009	4081	4153	4225	4296	4368	4440	4511	4583	4655		
6060	4726	4798	4870	4941	5013	5085	5156	5228	5299	5371		
61	5443	5514	5586	5658	5729	5801	5873	5944	6016	6088	71.6	
62	6159	6231	6303	6374	6446	6517	6589	6661	6732	6804		
63	6876	6947	7019	7091	7162	7234	7305	7377	7449	7520		
64	7592	7663	7735	7807	7878	7950	8022	8093	8165	8236		
65	8308	8380	8451	8523	8594	8666	8738	8809	8881	8952		
66	9024	9096	9167	9239	9310	9382	9454	9525	9597	9668		
67	9740	9811	9883	9955	0026	0098	0169	0241	0313	0384		
68	783.0456	0527	0599	0670	0742	0814	0885	0957	1028	1100		
69	1171	1243	1314	1386	1458	1529	1601	1672	1744	1815		
6070	1887	1958	2030	2101	2173	2245	2316	2388	2459	2531	71.5	71.5
71	2602	2674	2745	2817	2888	2960	3031	3103	3175	3246	1—7	
72	3318	3389	3461	3532	3604	3675	3747	3818	3890	3961	2—14	
73	4033	4104	4176	4247	4319	4390	4462	4533	4605	4676	3—21	
74	4748	4819	4891	4962	5034	5105	5177	5248	5320	5391	4—29	
75	5463	5534	5606	5677	5749	5820	5892	5963	6035	6106	5—36	
76	6178	6249	6321	6392	6464	6535	6606	6678	6749	6821	6—43	
77	6892	6964	7035	7107	7178	7250	7321	7393	7464	7535	7—51	
78	7607	7678	7750	7821	7893	7964	8036	8107	8178	8250	71.48—57	
79	8321	8393	8464	8536	8607	8679	8750	8821	8893	8964	9—64	
6080	9036	9107	9179	9250	9321	9393	9464	9536	9607	9679		
81	9750	9821	9893	9964	0036	0107	0178	0250	0321	0393		
82	784.0464	0536	0607	0678	0750	0821	0893	0964	1035	1107		
83	1178	1250	1321	1392	1464	1535	1606	1678	1749	1821		
84	1892	1963	2035	2106	2178	2249	2320	2392	2463	2534		
85	2606	2677	2749	2820	2891	2963	3034	3105	3177	3248		
86	3319	3391	3462	3534	3605	3676	3748	3819	3890	3962		
87	4033	4104	4176	4247	4318	4390	4461	4532	4604	4675	71.3	
88	4746	4818	4889	4960	5032	5103	5174	5246	5317	5388		
89	5460	5531	5602	5674	5745	5816	5888	5959	6030	6102		
6090	6173	6244	6315	6387	6458	6529	6601	6672	6743	6815		71
91	6886	6957	7029	7100	7171	7242	7314	7385	7456	7528	1—7	
92	7599	7670	7741	7813	7884	7955	8027	8098	8169	8240	2—14	
93	8312	8383	8454	8526	8597	8668	8739	8811	8882	8953	3—21	
94	9024	9096	9167	9238	9310	9381	9452	9523	9594	9666	4—28	
95	9737	9808	9880	9951	0022	0093	0165	0236	0307	0378	71.25—35	
96	785.0450	0521	0592	0663	0734	0806	0877	0948	1019	1091	6—43	
97	1162	1233	1304	1376	1447	1518	1589	1660	1732	1803	7—50	
98	1874	1945	2017	2088	2159	2230	2301	2373	2444	2515	8—57	
99	2586	2657	2729	2800	2871	2942	3014	3085	3156	3227	9—64	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 61000 L 785.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6100	785.3298	3369	3441	3514	3583	3654	3725	3797	3868	3939		71
01	4010	4081	4153	4224	4295	4366	4437	4508	4580	4651		1-7
02	4722	4793	4864	4935	5007	5078	5149	5220	5291	5362		2-14
03	5434	5505	5576	5647	5718	5789	5861	5932	6003	6074		3-21
04	6145	6216	6287	6358	6430	6501	6572	6643	6714	6785	71.1	4-28
05	6857	6928	6999	7070	7141	7212	7283	7355	7426	7497		5-35
06	7568	7639	7710	7781	7852	7924	7995	8066	8137	8208		6-43
07	8279	8350	8421	8492	8564	8635	8706	8777	8848	8919		7-50
08	8990	9061	9132	9204	9275	9346	9417	9488	9559	9630		8-57
09	9701	9772	9843	9914	9986	0057	0128	0199	0270	0341		9-64
6110	786.0412	0483	0554	0625	0696	0767	0839	0910	0981	1052		
11	1123	1194	1265	1336	1407	1478	1549	1620	1691	1762		
12	1833	1904	1976	2047	2118	2189	2260	2331	2402	2473		
13	2544	2615	2686	2757	2828	2899	2970	3041	3112	3183	71	
14	3254	3325	3396	3467	3538	3609	3680	3751	3822	3894		
15	3965	4036	4107	4178	4249	4320	4391	4462	4533	4604		
16	4675	4746	4817	4888	4959	5030	5101	5172	5243	5314		
17	5385	5456	5527	5598	5669	5740	5811	5882	5953	6024		
18	6095	6166	6237	6308	6379	6450	6521	6592	6663	6734		
19	6804	6875	6946	7017	7088	7159	7230	7301	7372	7443		
6120	7514	7585	7656	7727	7798	7869	7940	8011	8082	8153		
21	8224	8295	8366	8437	8508	8578	8649	8720	8791	8862	70.9	
22	8933	9004	9075	9146	9217	9288	9359	9430	9501	9572		
23	9643	9713	9784	9855	9926	9997	0068	0139	0210	0281		
24	787.0352	0423	0494	0565	0635	0706	0777	0848	0919	0990		
25	1061	1132	1203	1274	1344	1415	1486	1557	1628	1699		
26	1770	1841	1912	1983	2053	2124	2195	2266	2337	2408		
27	2479	2550	2621	2691	2762	2833	2904	2975	3046	3117		
28	3188	3258	3329	3400	3471	3542	3613	3684	3754	3825		
29	3896	3967	4038	4109	4180	4250	4321	4392	4463	4534		
6130	4605	4676	4746	4817	4888	4959	5030	5101	5171	5242	70.8	
31	5313	5384	5455	5526	5596	5667	5738	5809	5880	5951		
32	6021	6092	6163	6234	6305	6376	6446	6517	6588	6659		
33	6730	6800	6871	6942	7013	7084	7154	7225	7296	7367		
34	7438	7508	7579	7650	7721	7792	7862	7933	8004	8075		
35	8146	8216	8287	8358	8429	8500	8570	8641	8712	8783		
36	8853	8924	8995	9066	9137	9207	9278	9349	9420	9490		
37	9561	9632	9703	9773	9844	9915	9986	0057	0127	0198		
38	788.0269	0340	0410	0481	0552	0623	0693	0764	0835	0906	70.7	
39	0976	1047	1118	1189	1259	1330	1401	1471	1542	1613		
6140	1684	1754	1825	1896	1967	2037	2108	2179	2249	2320		
41	2391	2462	2532	2603	2674	2745	2815	2886	2957	3027		
42	3098	3169	3239	3310	3381	3452	3522	3593	3664	3734		
43	3805	3876	3946	4017	4088	4159	4229	4300	4371	4441		
44	4512	4583	4653	4724	4795	4865	4936	5007	5077	5148		
45	5219	5289	5360	5431	5502	5572	5643	5714	5784	5855		
46	5926	5996	6067	6137	6208	6279	6349	6420	6491	6561		
47	6632	6703	6773	6844	6915	6985	7056	7127	7197	7268	70.6	
48	7339	7409	7480	7550	7621	7692	7762	7833	7904	7974		
49	8045	8116	8186	8257	8327	8398	8469	8539	8610	8680		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 61500. L. 788

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6150	788.8751	3522	3892	8963	9034	9104	9175	9245	9316	9387		
51	9457	3528	9598	9669	9740	9810	9881	9951	0022	0093		
52	789.0163	0234	0304	0375	0446	0516	0587	0657	0728	0799		
53	0869	0940	1010	1081	1151	1222	1293	1363	1434	1504		
54	1575	1645	1716	1787	1857	1928	1998	2069	2139	2210		
55	2281	2351	2422	2492	2563	2633	2704	2774	2845	2916		
56	2986	3057	3127	3198	3268	3339	3409	3480	3550	3621	70.5	
57	3691	3762	3833	3903	3974	4044	4115	4185	4256	4326		
58	4397	4467	4538	4608	4679	4749	4820	4890	4961	5031		
59	5102	5173	5243	5314	5384	5455	5525	5596	5666	5737		
6160	5807	5878	5948	6019	6089	6160	6230	6301	6371	6442		70.5
61	6512	6583	6653	6724	6794	6864	6935	7005	7076	7146		1-7
62	7217	7287	7358	7428	7499	7569	7640	7710	7781	7851		2-14
63	7922	7992	8063	8133	8203	8274	8344	8415	8485	8556		3-21
64	8626	8697	8767	8838	8908	8979	9049	9119	9190	9260		4-28
65	9331	9401	9472	9542	9613	9683	9753	9824	9894	9965	70.4	5-35
66	790.0335	0406	0476	0546	0617	0687	0758	0828	0899	0969		6-42
67	0739	0810	0880	0951	1021	1092	1162	1232	1303	1373		7-49
68	1444	1514	1584	1655	1725	1796	1866	1936	2007	2077		8-56
69	2148	2218	2288	2359	2429	2500	2570	2640	2711	2781		9-63
6170	2852	2922	2992	3063	3133	3204	3274	3344	3415	3485		
71	3555	3626	3696	3767	3837	3907	3978	4048	4118	4189		
72	4259	4329	4400	4470	4541	4611	4681	4752	4822	4892		
73	4963	5033	5103	5174	5244	5314	5385	5455	5526	5596	70.3	
74	5666	5737	5807	5877	5948	6018	6088	6159	6229	6299		
75	6370	6440	6510	6581	6651	6721	6792	6862	6932	7003		
76	7073	7143	7213	7284	7354	7424	7495	7565	7635	7706		
77	7776	7846	7917	7987	8057	8127	8198	8268	8338	8409		
78	8479	8549	8620	8690	8760	8830	8901	8971	9041	9112		
79	9182	9252	9322	9393	9463	9533	9604	9674	9744	9814		
6180	9885	9955	0025	0096	0166	0236	0306	0377	0447	0517		
81	791.0587	0658	0728	0798	0868	0939	1009	1079	1149	1220		
82	1290	1360	1430	1501	1571	1641	1711	1782	1852	1922	70.2	
83	1992	2063	2133	2203	2273	2344	2414	2484	2554	2625		
84	2695	2765	2835	2905	2976	3046	3116	3186	3257	3327		
85	3397	3467	3537	3608	3678	3748	3818	3888	3959	4029		
86	4099	4169	4240	4310	4380	4450	4520	4591	4661	4731		
87	4801	4871	4941	5012	5082	5152	5222	5292	5363	5433		
88	5503	5573	5643	5714	5784	5854	5924	5994	6064	6135		
89	6205	6275	6345	6415	6485	6556	6626	6696	6766	6836		
6190	6906	6977	7047	7117	7187	7257	7327	7398	7468	7538		70
91	7608	7678	7748	7818	7889	7959	8029	8099	8169	8239	70.1	1-7
92	8309	8380	8450	8520	8590	8660	8730	8800	8870	8941		2-14
93	9011	9081	9151	9221	9291	9361	9431	9502	9572	9642		3-21
94	9712	9782	9852	9922	9992	0062	0133	0203	0273	0343		4-28
95	792.0413	0483	0553	0623	0693	0764	0834	0904	0974	1044		5-35
96	1114	1184	1254	1324	1394	1464	1535	1605	1675	1745		6-42
97	1815	1885	1955	2025	2095	2165	2235	2305	2376	2446		7-49
98	2516	2586	2656	2726	2786	2866	2936	3006	3076	3146		8-56
99	3216	3286	3356	3426	3497	3567	3637	3707	3777	3847		9-63
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N 62000 L. 792.										Logarithm	
Num	0	1	2	3	4	5	6	7	8	9	D Pts.
6200	792.3917	3987	4057	4127	4197	4267	4337	4407	4477	4547	70
01	4617	4687	4757	4827	4897	4967	5037	5107	5178	5248	1-7
02	5318	5388	5458	5528	5598	5668	5738	5808	5878	5948	2-14
03	6018	6088	6158	6228	6298	6368	6438	6508	6578	6648	3-21
04	6718	6788	6858	6928	6998	7068	7138	7208	7278	7348	4-28
05	7418	7488	7558	7628	7698	7768	7838	7908	7978	8048	5-35
06	8118	8188	8258	8328	8398	8468	8538	8608	8678	8747	6-42
07	8817	8887	8957	9027	9097	9167	9237	9307	9377	9447	7-49
08	9517	9587	9657	9727	9797	9867	9937	0007	0077	0147	8-56
09	793.0217	0286	0356	0426	0496	0566	0636	0706	0776	0846	69.99-63
6210	0916	0986	1056	1126	1196	1266	1336	1405	1475	1545	
11	1615	1685	1755	1825	1895	1965	2035	2105	2175	2245	
12	2314	2384	2454	2524	2594	2664	2734	2804	2874	2944	
13	3013	3083	3153	3223	3293	3363	3433	3503	3573	3643	
14	3712	3782	3852	3922	3992	4062	4132	4202	4272	4341	
15	4411	4481	4551	4621	4691	4761	4831	4900	4970	5040	
16	5110	5180	5250	5320	5389	5459	5529	5599	5669	5739	
17	5809	5878	5948	6018	6088	6158	6228	6298	6367	6437	
18	6507	6577	6647	6717	6786	6856	6926	6996	7066	7136	69.8
19	7206	7275	7345	7415	7485	7555	7624	7694	7764	7834	
6220	7904	7974	8043	8113	8183	8253	8323	8393	8462	8532	
21	8602	8672	8742	8811	8881	8951	9021	9091	9160	9230	
22	9300	9370	9440	9509	9579	9649	9719	9789	9858	9928	
23	9998	0068	0138	0207	0277	0347	0417	0486	0556	0626	
24	794.0696	0766	0835	0905	0975	1045	1114	1184	1254	1324	
25	1394	1463	1533	1603	1673	1742	1812	1882	1952	2021	
26	2091	2161	2231	2300	2370	2440	2510	2579	2649	2719	69.7
27	278	2858	2928	2998	3068	3137	3207	3277	3347	3416	
28	3486	3556	3625	3695	3765	3835	3904	3974	4044	4114	
29	4183	4253	4323	4392	4462	4532	4602	4671	4741	4811	
6230	4880	4950	5020	5090	5159	5229	5299	5368	5438	5508	
31	5577	5647	5717	5787	5856	5926	5996	6065	6135	6205	
32	6274	6344	6414	6483	6553	6623	6693	6762	6832	6902	
33	6971	7041	7111	7180	7250	7320	7389	7459	7529	7598	
34	7668	7738	7807	7877	7947	8016	8086	8156	8225	8295	
35	8365	8434	8504	8573	8643	8713	8782	8852	8922	8991	69.6
36	9061	9131	9200	9270	9340	9409	9479	9548	9618	9688	
37	9757	9827	9897	9966	0036	0106	0175	0245	0314	0384	
38	795.0454	0523	0593	0663	0732	0802	0871	0941	1011	1080	
39	1150	1219	1289	1359	1428	1498	1567	1637	1707	1776	
6240	1846	1915	1985	2055	2124	2194	2263	2333	2403	2471	
41	2542	2611	2681	2751	2820	2890	2959	3029	3098	3168	
42	3238	3307	3377	3446	3516	3585	3655	3725	3794	3864	
43	3933	4002	4072	4142	4212	4281	4351	4420	4490	4559	
44	4629	4698	4768	4838	4907	4977	5046	5116	5185	5255	69.5
45	5324	5394	5463	5533	5603	5672	5742	5811	5881	5950	
46	6020	6089	6159	6228	6298	6367	6437	6506	6576	6645	
47	6715	6784	6854	6924	6993	7063	7132	7202	7271	7341	
48	7410	7480	7549	7619	7688	7758	7827	7897	7966	8036	
49	8105	8175	8244	8314	8383	8453	8522	8592	8661	8731	
Num	0	1	2	3	4	5	6	7	8	9	D Pro.

to 101000.

N. 62500. L. 795

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5250	795.8800	8870	8939	9005	9078	9148	9217	9287	9356	9425		69-5
51	9495	9564	9634	9703	9773	9842	9912	9981	10051	0120		1-7
52	796.0190	0259	0329	0398	0467	0537	0606	0676	0745	0815		2-14
53	0884	0954	1023	1093	1162	1231	1301	1370	1440	1509		3-21
54	1579	1648	1718	1787	1856	1926	1995	2065	2134	2204	69.4	4-28
55	2272	2342	2412	2481	2551	2620	2690	2759	2829	2898		5-35
56	2967	3037	3106	3176	3245	3314	3384	3453	3523	3592		6-42
57	3662	3731	3800	3870	3939	4009	4078	4147	4217	4286		7-49
58	4356	4425	4494	4564	4633	4703	4772	4841	4911	4980		8-56
59	5049	5119	5188	5258	5327	5396	5466	5536	5605	5674		9-63
6260	5743	5813	5882	5951	6021	6090	6160	6229	6299	6368		
61	6437	6506	6576	6645	6714	6784	6853	6923	6992	7061		
62	7131	7200	7269	7339	7408	7477	7547	7616	7685	7755	69.3	
63	7824	7893	7963	8032	8101	8171	8240	8309	8379	8448		
64	8517	8587	8656	8725	8795	8864	8933	9003	9072	9141		
65	9211	9280	9349	9419	9488	9557	9627	9696	9765	9835		
66	9904	9973	0042	0112	0181	0250	0320	0389	0458	0528		
67	797.0597	0666	0735	0805	0874	0943	1013	1082	1151	1221		
68	1290	1358	1428	1498	1567	1636	1706	1775	1844	1913		
69	1983	2052	2121	2190	2260	2329	2398	2468	2537	2606		
6270	2675	2745	2814	2883	2952	3022	3091	3160	3229	3299		
71	3368	3437	3506	3576	3645	3714	3783	3853	3922	3991	69.2	
72	4060	4130	4199	4268	4337	4407	4476	4545	4614	4684		
73	4753	4822	4891	4961	5030	5099	5168	5237	5307	5376		
74	5445	5514	5584	5653	5722	5791	5860	5930	5999	6068		
75	6137	6206	6276	6345	6414	6483	6552	6622	6691	6770		
76	6829	6898	6968	7037	7106	7175	7244	7314	7383	7452		
77	7521	7590	7660	7729	7798	7867	7936	8006	8075	8144		
78	8213	8282	8351	8421	8490	8559	8628	8697	8766	8836		
79	8905	8974	9043	9112	9181	9251	9320	9389	9458	9527		
6280	9596	9666	9735	9804	9873	9942	0011	0080	0150	0219	69.1	
81	798.0288	0357	0426	0495	0564	0634	0703	0772	0841	0910		
82	0979	1048	1118	1187	1256	1325	1394	1463	1532	1601		
83	1671	1740	1809	1878	1947	2016	2085	2154	2223	2293		
84	2362	2431	2500	2569	2638	2707	2776	2845	2915	2984		
85	3053	3122	3191	3260	3329	3398	3467	3536	3606	3675		
86	3744	3813	3882	3951	4020	4089	4158	4227	4296	4365		
87	4435	4504	4573	4642	4711	4780	4849	4918	4987	5056		
88	5125	5194	5263	5332	5402	5471	5540	5609	5678	5747		
89	5816	5885	5954	6023	6092	6161	6230	6299	6368	6437		
6290	6506	6575	6644	6714	6783	6852	6921	6990	7059	7128	69	69
91	7197	7266	7335	7404	7473	7542	7611	7680	7749	7818		1-7
92	7887	7956	8025	8094	8163	8232	8301	8370	8439	8508		2-14
93	8577	8646	8715	8784	8853	8922	8991	9060	9129	9198		3-21
94	9267	9336	9405	9474	9543	9612	9681	9750	9819	9888		4-28
95	9957	0026	0095	0164	0233	0302	0371	0440	0509	0578		5-34
96	799.0647	0716	0785	0854	0923	0992	1061	1130	1199	1268		6-41
97	1337	1406	1475	1544	1613	1682	1751	1820	1889	1958		7-48
98	2027	2095	2164	2233	2302	2371	2440	2509	2578	2647		8-55
99	2716	2785	2854	2923	2992	3061	3130	3199	3268	3337	68.9	0-62
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 63000. L. 799.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6300	799	3405	3474	3543	3612	3681	3750	3819	3888	3957	4026	69
01		4095	4164	4233	4302	4370	4439	4508	4577	4646	4715	1-7
02		4784	4853	4922	4991	5060	5128	5197	5266	5335	5404	2-14
03		5473	5542	5611	5680	5749	5818	5886	5955	6024	6093	3-21
04		6162	5231	6300	6369	6438	6506	6575	6644	6713	6782	4-28
05		6851	6920	6989	7057	7126	7195	7264	7333	7402	7471	5-34
06		7540	7608	7677	7746	7815	7884	7953	8022	8091	8159	6-41
07		8228	8297	8366	8435	8504	8573	8641	8710	8779	8848	7-48
08		8917	8986	9054	9123	9192	9261	9330	9399	9468	9536	8-55
09		9605	9674	9743	9812	9881	9949	0018	0087	0156	0225	9-62
6310	800	0294	0362	0431	0500	0569	0638	0706	0775	0844	0913	
11		0982	1051	1119	1188	1257	1326	1395	1463	1532	1601	
12		1670	1739	1807	1876	1945	2014	2083	2151	2220	2289	
13		2358	2427	2495	2564	2633	2702	2771	2839	2908	2977	
14		3046	3115	3183	3252	3321	3390	3458	3527	3596	3665	
15		3733	3802	3871	3940	4009	4077	4146	4215	4284	4352	
16		4421	4490	4559	4627	4696	4765	4834	4902	4971	5040	
17		5109	5177	5246	5315	5384	5452	5521	5590	5659	5727	68.7
18		5796	5865	5934	6002	6071	6140	6209	6277	6346	6415	
19		6484	6552	6621	6690	6758	6827	6896	6965	7033	7102	
6320		7171	7239	7308	7377	7446	7514	7583	7652	7720	7789	
21		7858	7927	7995	8064	8133	8201	8270	8339	8407	8476	
22		8545	8614	8682	8751	8820	8888	8957	9026	9094	9163	
23		9232	9300	9369	9438	9506	9575	9644	9713	9781	9850	
24		9919	9987	0056	0125	0193	0262	0331	0399	0468	0537	
25	801	0605	0674	0743	0811	0880	0949	1017	1086	1155	1223	
26		1292	1360	1429	1498	1566	1635	1704	1772	1841	1910	68.5
27		1978	2047	2116	2184	2253	2321	2390	2459	2527	2596	
28		2665	2733	2802	2871	2939	3008	3076	3145	3214	3282	
29		3351	3420	3488	3557	3625	3694	3763	3831	3900	3968	
6330		4037	4106	4174	4243	4311	4380	4449	4517	4586	4654	
31		4723	4792	4860	4929	4997	5066	5135	5203	5272	5340	
32		5409	5478	5546	5615	5683	5752	5821	5889	5958	6026	
33		6095	6163	6232	6301	6369	6438	6506	6575	6643	6712	
34		6781	6849	6918	6986	7055	7123	7192	7260	7329	7398	
35		7466	7535	7603	7672	7740	7809	7877	7946	8015	8083	68.5
36		8152	8220	8289	8357	8426	8494	8563	8631	8700	8768	
37		8837	8906	8974	9043	9111	9180	9248	9317	9385	9454	
38		9522	9591	9659	9728	9796	9865	9933	0002	0070	0139	
39	802	0207	0276	0344	0413	0482	0550	0619	0687	0755	0824	
6340		0893	0961	1030	1098	1167	1235	1304	1372	1441	1509	68.5
41		1577	1646	1714	1783	1851	1920	1988	2057	2125	2194	1-7
42		2262	2331	2399	2468	2536	2605	2673	2742	2810	2879	2-14
43		2947	3016	3084	3152	3221	3289	3358	3426	3495	3563	3-21
44		3632	3700	3769	3837	3906	3974	4042	4111	4179	4248	4-27
45		4316	4385	4453	4522	4590	4658	4727	4795	4864	4932	68.4
46		5001	5069	5137	5206	5274	5343	5411	5480	5548	5617	5-34
47		5685	5753	5822	5890	5959	6027	6095	6164	6232	6301	6-41
48		6369	6438	6506	6574	6643	6711	6780	6848	6916	6985	7-48
49		7053	7122	7190	7258	7327	7395	7464	7532	7600	7669	8-55
												9-62
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 63500. L. 808

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6350	802.7737	7806	7874	7942	8011	8079	8148	8216	8284	8353		
51	8421	8489	8558	8626	8695	8763	8831	8900	8968	9036		
52	9105	9173	9242	9310	9378	9447	9515	9583	9652	9720		
53	9789	9857	9925	9994	0062	0130	0199	0267	0335	0404		
54	803.0472	0540	0609	0677	0745	0814	0882	0950	1019	1087	68.3	
55	1155	1224	1292	1361	1429	1497	1566	1634	1702	1771		
56	1839	1907	1975	2044	2112	2180	2249	2317	2385	2454		
57	2522	2590	2659	2727	2795	2864	2932	3000	3069	3137		
58	3205	3273	3342	3410	3478	3547	3615	3683	3752	3820		
59	3888	3956	4025	4093	4161	4230	4298	4366	4435	4503		
6360	4571	4639	4708	4776	4844	4913	4981	5049	5117	5186		
61	5254	5322	5390	5459	5527	5595	5664	5732	5800	5868		
62	5937	6005	6073	6141	6210	6278	6346	6414	6483	6551	68.2	
63	6619	6687	6756	6824	6892	6960	7029	7097	7165	7233		
64	7302	7370	7438	7506	7575	7643	7711	7779	7848	7916		
65	7984	8052	8120	8189	8257	8325	8393	8462	8530	8598		
66	8666	8735	8803	8871	8939	9007	9076	9144	9212	9280		
67	9348	9417	9485	9553	9621	9689	9758	9826	9894	9962		
68	804.0030	0099	0167	0235	0303	0371	0440	0508	0576	0644		
69	0712	0781	0849	0917	0985	1053	1122	1190	1258	1326		
6370	1394	1462	1531	1599	1667	1735	1803	1871	1940	2008		
71	2076	2144	2212	2280	2349	2417	2485	2553	2621	2689		
72	2758	2826	2894	2962	3030	3098	3167	3235	3303	3371		
73	3439	3507	3575	3644	3712	3780	3848	3916	3984	4052	68.1	
74	4121	4189	4257	4325	4393	4461	4529	4597	4666	4734		
75	4802	4870	4938	5006	5074	5142	5211	5279	5347	5415		
76	5483	5551	5619	5687	5755	5824	5892	5960	6028	6096		
77	6164	6232	6300	6368	6437	6505	6573	6641	6709	6777		
78	6845	6913	6981	7049	7117	7186	7254	7322	7390	7458		
79	7526	7594	7662	7730	7798	7866	7934	8003	8071	8139		
6380	8207	8275	8343	8411	8479	8547	8615	8683	8751	8819		
81	8887	8955	9024	9092	9160	9228	9296	9364	9432	9500		
82	9568	9636	9704	9772	9840	9908	9976	0044	0112	0180	68	
83	805.0248	0316	0384	0453	0521	0589	0657	0725	0793	0861		
84	0929	0997	1065	1133	1201	1269	1337	1405	1473	1541		
85	1609	1677	1745	1813	1881	1949	2017	2085	2153	2221		
86	2289	2357	2425	2493	2561	2629	2697	2765	2833	2901		
87	2969	3037	3105	3173	3241	3309	3377	3445	3513	3581		
88	3649	3717	3785	3853	3921	3989	4057	4125	4193	4261		
89	4320	4397	4465	4533	4601	4669	4737	4805	4873	4941		
6390	5005	5070	5144	5212	5280	5348	5416	5484	5552	5620		
91	5688	5756	5824	5892	5960	6028	6096	6164	6232	6300	67.9	1-7
92	6368	6436	6503	6571	6639	6707	6775	6843	6911	6979		2-14
93	7047	7115	7183	7251	7319	7387	7455	7522	7590	7658		3-20
94	7726	7794	7862	7930	7998	8066	8134	8202	8270	8338		4-27
95	8405	8473	8541	8609	8677	8745	8813	8881	8949	9017		5-34
96	9085	9152	9220	9288	9356	9424	9492	9560	9628	9696		6-41
97	9763	9831	9899	9967	0035	0103	0171	0239	0307	0374		7-48
98	806.0442	0510	0578	0646	0714	0782	0850	0917	0985	1053		8-54
99	1121	1189	1257	1325	1393	1460	1528	1596	1664	1732		9-51
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N 64000 L 806.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5400	1806.1800	1868	1935	2003	2071	2139	2207	2275	2343	2410		68
01	2478	2546	2614	2682	2750	2817	2885	2953	3021	3089	67.8	1—
02	3157	3224	3292	3360	3428	3496	3564	3631	3699	3767		2—14
03	3835	3903	3971	4038	4106	4174	4242	4310	4378	4445		3—20
04	4513	4581	4649	4717	4784	4852	4920	4988	5056	5123		4—27
05	5191	5259	5327	5395	5463	5530	5598	5666	5734	5801		5—34
06	5869	5937	6005	6073	6140	6208	6276	6344	6412	6479		6—41
07	6547	6615	6683	6751	6818	6886	6954	7022	7089	7157		7—48
08	7225	7293	7361	7428	7496	7564	7632	7699	7767	7835		8—54
09	7903	7970	8038	8106	8174	8241	8309	8377	8445	8512		9—61
6410	8580	8648	8716	8783	8851	8919	8987	9054	9122	9190	67.7	
11	9258	9325	9393	9461	9529	9596	9664	9732	9800	9867		
12	9935	0003	0071	0138	0206	0274	0341	0409	0477	0545		
13	807.0612	0680	0748	0816	0883	0951	1019	1086	1154	1222		
14	1290	1357	1425	1493	1560	1628	1696	1763	1831	1899		
15	1967	2034	2102	2170	2237	2305	2373	2440	2508	2576		
16	2644	2711	2779	2847	2914	2982	3050	3117	3185	3253		
17	3320	3388	3456	3523	3591	3659	3726	3794	3862	3929		
18	3997	4065	4132	4200	4268	4335	4403	4471	4538	4606		
19	4674	4741	4809	4877	4944	5012	5080	5147	5215	5283		
6420	5350	5418	5486	5553	5621	5688	5756	5824	5891	5959	67.6	
21	6027	6094	6162	6230	6297	6365	6432	6500	6568	6635		
22	6703	6771	6838	6906	6973	7041	7109	7176	7244	7312		
23	7379	7447	7514	7582	7650	7717	7785	7852	7920	7988		
24	8055	8123	8190	8258	8326	8393	8461	8528	8596	8664		
25	8731	8799	8866	8934	9002	9069	9137	9204	9272	9340		
26	9407	9475	9542	9610	9677	9745	9813	9880	9948	0015		
27	808.0083	0151	0218	0286	0353	0421	0488	0556	0624	0691		
28	0759	0826	0894	0961	1029	1096	1164	1232	1299	1367		
29	1434	1502	1569	1637	1704	1772	1840	1907	1975	2042	67.5	
6430	2110	2177	2245	2312	2380	2447	2515	2582	2650	2718		
31	2785	2853	2920	2988	3055	3123	3190	3258	3325	3393		
32	3460	3528	3595	3663	3730	3798	3865	3933	4000	4068		
33	4135	4203	4270	4338	4405	4473	4541	4608	4676	4743		
34	4811	4878	4946	5013	5081	5148	5215	5283	5350	5418		
35	5485	5553	5620	5688	5755	5823	5890	5958	6025	6093		
36	6160	6228	6295	6363	6430	6498	6565	6633	6700	6768		
37	6835	6903	6970	7037	7105	7172	7240	7307	7375	7442		
38	7510	7577	7645	7712	7779	7847	7914	7982	8049	8117		
39	8184	8252	8319	8387	8454	8521	8589	8656	8724	8791	67.4	
6440	8859	8926	8993	9061	9128	9196	9263	9331	9398	9466	67.5	
41	9533	9600	9668	9735	9803	9870	9937	0005	0072	0140		1—7
42	809.0207	0275	0342	0409	0477	0544	0612	0679	0746	0814		2—13
43	0881	0949	1016	1083	1151	1218	1286	1353	1420	1488		3—20
44	1555	1623	1690	1757	1825	1892	1960	2027	2094	2162		4—27
45	2229	2297	2364	2431	2499	2566	2633	2701	2768	2836		5—34
46	2903	2970	3038	3105	3172	3240	3307	3375	3442	3509		6—40
47	3577	3644	3711	3779	3846	3913	3981	4048	4116	4183		7—47
48	4250	4318	4385	4452	4520	4587	4654	4722	4789	4856	67.3	8—54
49	4924	4991	5058	5126	5193	5260	5328	5395	5462	5530		9—61
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 64500. L. 809

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
6450	809	5597	5664	5732	5799	5866	5934	6001	6068	6136	6203	
51		6270	6338	6405	6472	6540	6607	6674	6742	6809	6876	
52		6944	7011	7078	7145	7213	7280	7347	7415	7482	7549	
53		7617	7684	7751	7819	7886	7953	8020	8088	8155	8222	
54		8290	8357	8424	8491	8559	8626	8693	8761	8828	8895	
55		8962	9030	9097	9164	9232	9299	9366	9433	9501	9568	
56		9635	9702	9770	9837	9904	9972	0039	0106	0173	0241	
57	310	0308	0375	0442	0510	0577	0644	0711	0779	0846	0913	
58		0980	1048	1115	1182	1249	1317	1384	1451	1518	1586	67.2
59		1653	1720	1787	1855	1922	1989	2056	2123	2191	2258	
6460		2325	2392	2460	2527	2594	2661	2728	2796	2863	2930	
61		2997	3065	3132	3199	3266	3333	3401	3468	3535	3602	
62		3669	3737	3804	3871	3938	4006	4073	4140	4207	4274	
63		4342	4409	4476	4543	4610	4677	4745	4812	4879	4946	
64		5013	5081	5148	5215	5282	5349	5417	5484	5551	5618	
65		5685	5752	5820	5887	5954	6021	6088	6155	6223	6290	
66		6357	6424	6491	6558	6626	6693	6760	6827	6894	6961	
67		7029	7096	7163	7230	7297	7364	7431	7499	7566	7633	
68		7700	7767	7834	7901	7969	8036	8103	8170	8237	8304	67.1
69		8371	8439	8506	8573	8640	8707	8774	8841	8909	8976	
6470		9043	9110	9177	9244	9311	9378	9445	9513	9580	9647	
71		9714	9781	9848	9915	9982	0050	0117	0184	0251	0318	
72	811	0385	0452	0519	0586	0653	0721	0788	0855	0922	0989	
73		1056	1123	1190	1257	1324	1391	1459	1526	1593	1660	
74		1727	1794	1861	1928	1995	2062	2129	2196	2264	2331	
75		2398	2465	2532	2599	2666	2733	2800	2867	2934	3001	
76		3068	3135	3202	3270	3337	3404	3471	3538	3605	3672	
77		3739	3806	3873	3940	4007	4074	4141	4208	4275	4342	67
78		4409	4476	4543	4611	4678	4745	4812	4879	4946	5013	
79		5080	5147	5214	5281	5348	5415	5482	5549	5616	5683	
6480		5750	5817	5884	5951	6018	6085	6152	6219	6286	6353	67
81		6420	6487	6554	6621	6688	6755	6822	6889	6956	7023	1-7
82		7090	7157	7224	7291	7358	7425	7492	7559	7626	7693	2-13
83		7760	7827	7894	7961	8028	8095	8162	8229	8296	8363	3-20
84		8430	8497	8564	8631	8698	8765	8832	8899	8966	9033	4-27
85		9100	9167	9234	9301	9368	9435	9502	9569	9635	9702	5-34
86		9769	9836	9903	9970	0037	0104	0171	0238	0305	0372	6-40
87	812	0439	0506	0573	0640	0707	0774	0841	0908	0974	1041	66.9
88		1108	1175	1242	1309	1376	1443	1510	1577	1644	1711	8-54
89		1778	1845	1912	1978	2045	2112	2179	2246	2313	2380	9-60
6490		2447	2514	2581	2648	2715	2781	2848	2915	2982	3049	
91		3116	3183	3250	3317	3384	3451	3517	3584	3651	3718	
92		3785	3852	3919	3986	4053	4120	4186	4253	4320	4387	
93		4454	4521	4588	4655	4722	4788	4855	4922	4989	5056	
94		5123	5190	5257	5323	5390	5457	5524	5591	5658	5725	
95		5792	5858	5925	5992	6059	6126	6193	6260	6326	6393	
96		6460	6527	6594	6661	6728	6794	6861	6928	6995	7062	
97		7129	7195	7262	7329	7396	7463	7530	7597	7663	7730	66.8
98		7797	7864	7931	7998	8064	8131	8198	8265	8332	8398	
99		8465	8532	8599	8666	8733	8799	8866	8933	9000	9067	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 65000. L 812

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6500	812.9134	9200	9267	9334	9401	9468	9534	9601	9668	9735		66.5
01	9802	9868	9935	0002	0069	0136	0202	0269	0336	0403		1-7
02	813.0470	0536	0603	0670	0737	0804	0870	0937	1004	1071		2-13
03	1137	1204	1271	1338	1405	1471	1538	1605	1672	1739		3-20
04	1805	187	1939	2006	2072	2139	2206	2273	2339	2406		4-27
05	2473	2540	2606	2673	2740	2807	2874	2940	3007	3074		5-33
06	3141	3207	3274	3341	3408	3474	3541	3608	3675	3741	66.7	6-40
07	3808	3875	3942	4008	4075	4142	4208	4275	4342	4409		7-47
08	4475	4542	4609	4676	4742	4809	4876	4942	5009	5076		8-53
09	5143	5209	5276	5343	5410	5476	5543	5610	5676	5743		9-60
6510	5810	5877	5943	6010	6077	6143	6210	6277	6343	6410		
11	6477	6544	6610	6677	6744	6810	6877	6944	7010	7077		
12	7144	7211	7277	7344	7411	7477	7544	7611	7677	7744		
13	7811	7877	7944	8011	8077	8144	8211	8277	8344	8411		
14	8477	8544	8611	8678	8744	8811	8877	8944	9011	9077		
15	9144	9211	9277	9344	9411	9477	9544	9611	9677	9744		
16	9811	9877	9944	0011	0077	0144	0211	0277	0344	0411	66.6	
17	814.0477	0544	0610	0677	0744	0810	0877	0944	1010	1077		
18	1144	1210	1277	1343	1410	1477	1543	1610	1677	1743		
19	1810	1876	1943	2010	2076	2143	2209	2276	2343	2409		
6520	2476	2543	2609	2676	2742	2809	2876	2942	3009	3075		
21	3142	3208	3275	3342	3408	3475	3542	3608	3675	3741		
22	3808	3874	3941	4008	4074	4141	4207	4274	4341	4407		
23	4474	4540	4607	4673	4740	4807	4873	4940	5006	5073		
24	5139	5206	5273	5339	5406	5472	5539	5605	5672	5739		
25	5805	5872	5938	6005	6071	6138	6204	6271	6338	6404		
26	6471	6537	6604	6670	6737	6803	6870	6936	7003	7070	66.5	
27	7136	7203	7269	7336	7402	7469	7535	7602	7668	7735		
28	7801	7868	7934	8001	8068	8134	8201	8267	8334	8400		
29	8467	8533	8600	8666	8733	8799	8866	8932	8999	9065		
6530	9132	9198	9265	9331	9398	9464	9531	9597	9664	9730		
31	9797	9863	9930	9996	0063	0129	0196	0262	0329	0395		
32	815.0462	0528	0595	0661	0728	0794	0861	0927	0994	1060		
33	1127	1193	1259	1326	1392	1459	1525	1592	1658	1725		
34	1791	1858	1924	1991	2057	2124	2190	2256	2323	2389		
35	2456	2522	2589	2655	2722	2788	2855	2921	2987	3054		
36	3120	3187	3253	3320	3386	3453	3519	3585	3652	3718	66.4	
37	3785	3851	3918	3984	4051	4117	4183	4250	4316	4383		
38	4449	4516	4582	4648	4715	4781	4848	4914	4980	5047		
39	5113	5180	5246	5313	5379	5445	5512	5578	5645	5711		
6540	5777	5844	5910	5977	6043	6109	6176	6242	6309	6375		
41	6441	6508	6574	6641	6707	6773	6840	6906	6973	7039		
42	7105	7172	7238	7305	7371	7437	7504	7570	7636	7703		
43	7769	7836	7902	7968	8035	8101	8167	8234	8300	8366		
44	8433	8499	8566	8632	8698	8765	8831	8897	8964	9030		
45	9096	9163	9229	9296	9362	9428	9494	9561	9627	9694		
46	9760	9826	9893	9959	0025	0092	0158	0224	0291	0357		
47	816.0423	0490	0556	0622	0689	0755	0821	0888	0954	1020	66.3	
48	1087	1153	1219	1286	1352	1418	1485	1551	1617	1684		
49	1750	1816	1882	1949	2015	2081	2148	2214	2280	2347		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 65500. L. 816

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6550	316.2413	2479	2546	2612	2678	2744	2811	2877	2943	3010		
51	3076	3142	3209	3275	3341	3407	3474	3540	3606	3673		
52	3739	3805	3871	3938	4004	4070	4137	4203	4269	4335		
53	4402	4468	4534	4600	4667	4733	4799	4876	4932	4998		
54	5064	5131	5197	5263	5329	5396	5462	5528	5594	5661		
55	5727	5793	5859	5926	5992	6058	6124	6191	6257	6323	66.2	
56	6389	6456	6522	6588	6654	6721	6787	6853	6919	6986		
57	7052	7118	7184	7250	7317	7383	7449	7515	7582	7648		
58	7714	7780	7847	7913	7979	8045	8111	8178	8244	8310		
59	8376	8442	8509	8575	8641	8707	8774	8840	8906	8972		
6560	9038	9105	9171	9237	9303	9369	9436	9502	9568	9634		
61	9700	9767	9833	9899	9965	0031	0097	0164	0230	0296		
62	817.0362	0428	0495	0561	0627	0693	0759	0825	0892	0958		
63	1024	1090	1156	1223	1289	1355	1421	1487	1553	1620		
64	1686	1752	1818	1884	1950	2016	2083	2149	2215	2281		
65	2347	2413	2480	2546	2612	2678	2744	2810	2876	2943	66.1	
66	3009	3075	3141	3207	3273	3339	3406	3472	3538	3604		
67	3670	3736	3802	3869	3935	4001	4067	4133	4199	4265		
68	4331	4398	4464	4530	4596	4662	4728	4794	4860	4926		
69	4993	5059	5125	5191	5257	5323	5389	5455	5521	5588		
6570	5654	5720	5786	5852	5918	5984	6050	6116	6182	6249		
71	6315	6381	6447	6513	6579	6645	6711	6777	6843	6909		
72	6975	7042	7108	7174	7240	7306	7372	7438	7504	7570		
73	7636	7702	7768	7834	7901	7967	8033	8099	8165	8231		
74	8297	8363	8429	8495	8561	8627	8693	8759	8825	8891		
75	8958	9024	9090	9156	9222	9288	9354	9420	9486	9552	66	
76	9618	9684	9750	9816	9882	9948	0014	0080	0146	0212		
77	818.0278	0344	0410	0476	0542	0609	0675	0741	0807	0873		
78	0939	1005	1071	1137	1203	1269	1335	1401	1467	1533		
79	1599	1665	1731	1797	1863	1929	1995	2061	2127	2193		
6580	2259	2325	2391	2457	2523	2589	2655	2721	2787	2853		66
81	2919	2985	3051	3117	3183	3249	3315	3381	3447	3513	1-7	
82	3579	3645	3711	3777	3843	3909	3975	4041	4107	4173	2-13	
83	4239	4304	4370	4436	4502	4568	4634	4700	4766	4832	3-20	
84	4898	4964	5030	5096	5162	5228	5294	5360	5426	5492	4-26	
85	5558	5624	5690	5756	5822	5887	5953	6019	6085	6151	65.2	5-33
86	6217	6283	6349	6415	6481	6547	6613	6679	6745	6811	6-40	
87	6877	6943	7008	7074	7140	7206	7272	7338	7404	7470	7-46	
88	7536	7602	7668	7734	7800	7865	7931	7997	8063	8129	8-53	
89	8195	8261	8327	8393	8459	8525	8590	8656	8722	8788	9-59	
6590	8854	8920	8986	9052	9118	9184	9249	9316	9381	9447		
91	9513	9579	9645	9711	9777	9843	9908	9974	0040	0106		
92	819.0172	0238	0304	0370	0435	0501	0567	0633	0699	0765		
93	0831	0897	0962	1028	1094	1160	1226	1292	1358	1424		
94	1489	1555	1621	1687	1753	1819	1885	1950	2016	2082		
95	2148	2214	2280	2346	2411	2477	2543	2609	2675	2741	65.8	
96	2806	2872	2938	3004	3070	3136	3201	3267	3333	3399		
97	3465	3531	3596	3662	3728	3794	3860	3926	3991	4057		
98	4123	4189	4255	4321	4386	4452	4518	4584	4650	4715		
99	4781	4847	4913	4979	5044	5110	5176	5242	5308	5374		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 66000. L. 819.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6600	819.5439	5505	5571	5637	5703	5768	5834	5900	5966	6031		
01	6097	6163	6229	6295	6360	6426	6492	6558	6624	6689		
02	6755	6821	6887	6952	7018	7084	7150	7216	7281	7347		
03	7413	7479	7544	7610	7676	7742	7808	7873	7939	8005		
04	8071	8136	8202	8268	8334	8399	8465	8531	8597	8662		
05	8728	8794	8860	8925	8991	9057	9123	9188	9254	9320	65.7	
06	9386	9451	9517	9583	9649	9714	9780	9846	9912	9977		
07	820.0043	0109	0174	0240	0306	0372	0437	0503	0569	0635		
08	0700	0766	0832	0897	0963	1029	1095	1160	1226	1292		
09	1357	1423	1489	1555	1620	1686	1752	1817	1883	1949		
6610	2015	2080	2146	2212	2277	2343	2409	2474	2540	2606		
11	2672	2737	2803	2869	2934	3000	3066	3131	3197	3263		
12	3328	3394	3460	3525	3591	3657	3722	3788	3854	3920		
13	3985	4051	4117	4182	4248	4314	4379	4445	4511	4576		
14	4642	4708	4773	4839	4904	4970	5036	5101	5167	5233		
15	5298	5364	5430	5495	5561	5627	5692	5758	5824	5889	65.6	
16	5955	6021	6086	6152	6217	6283	6349	6414	6480	6546		
17	6611	6677	6743	6808	6874	6939	7005	7071	7136	7202		
18	7268	7333	7399	7464	7530	7596	7661	7727	7793	7858		
19	7924	7989	8055	8121	8186	8252	8317	8383	8449	8514		
6620	8580	8645	8711	8777	8842	8908	8973	9039	9105	9170	65.5	
21	9236	9301	9367	9433	9498	9564	9629	9695	9761	9826	1—7	
22	9892	9957	0023	0088	0154	0220	0285	0351	0416	0482	2—13	
23	821.0548	0613	0679	0744	0810	0875	0941	1006	1072	1138	3—20	
24	1203	1269	1334	1400	1465	1531	1597	1662	1728	1793	4—26	
25	1859	1924	1990	2055	2121	2187	2252	2318	2383	2449	65.5	
26	2514	2580	2645	2711	2776	2842	2908	2973	3039	3104	5—33	
27	3170	3235	3301	3366	3432	3497	3563	3628	3694	3759	6—39	
28	3825	3890	3956	4022	4087	4153	4218	4284	4349	4415	7—46	
29	4480	4546	4611	4677	4742	4808	4873	4939	5004	5070	8—52	
6630	5135	5201	5266	5332	5397	5463	5528	5594	5659	5725	9—59	
31	5790	5856	5921	5987	6052	6118	6183	6249	6314	6380		
32	6445	6511	6576	6642	6707	6773	6838	6903	6969	7034		
33	7100	7165	7231	7296	7362	7427	7493	7558	7624	7689		
34	7755	7820	7886	7951	8016	8082	8147	8213	8278	8344		
35	8409	8475	8540	8606	8671	8736	8802	8867	8933	8998		
36	9064	9129	9195	9260	9325	9391	9456	9522	9587	9653	65.4	
37	9718	9784	9849	9914	9980	0045	0111	0176	0242	0307		
38	822.0372	0438	0503	0569	0634	0700	0765	0830	0896	0961		
39	1027	1092	1157	1223	1288	1354	1419	1485	1550	1615		
5640	1681	1746	1812	1877	1942	2008	2073	2139	2204	2269		
41	2335	2400	2466	2531	2596	2662	2727	2793	2858	2923		
42	2989	3054	3119	3185	3250	3316	3381	3446	3512	3577		
43	3642	3708	3773	3838	3904	3969	4035	4100	4165	4231		
44	4296	4362	4427	4492	4558	4623	4688	4754	4819	4884		
45	4950	5015	5081	5146	5211	5277	5342	5407	5473	5538		
46	5603	5669	5734	5799	5865	5930	5995	6061	6126	6191	65.3	
47	6257	6322	6387	6453	6518	6583	6649	6714	6779	6845		
48	6910	6975	7041	7106	7171	7237	7302	7367	7433	7498		
49	7563	7629	7694	7759	7825	7890	7955	8020	8086	8151		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 66500. L. 822

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6650	822.8216	8282	8347	8412	8478	8543	8608	8674	8739	8804		
51	8869	8935	9000	9065	9131	9196	9261	9326	9392	9457		
52	9522	9588	9653	9718	9783	9849	9914	9979	0045	0110		
53	823.0175	0240	0306	0371	0436	0502	0567	0632	0697	0763		
54	0828	0893	0958	1024	1089	1154	1220	1285	1350	1415		
55	1481	1546	1611	1676	1742	1807	1872	1937	2003	2068		
56	2133	2198	2264	2329	2394	2459	2525	2590	2655	2720	65.2	
57	2786	2851	2916	2981	3046	3112	3177	3242	3307	3373		
58	3438	3503	3568	3634	3699	3764	3829	3894	3960	4025		
59	4090	4155	4221	4286	4351	4416	4481	4547	4612	4677		
6660	4742	4807	4873	4938	5003	5068	5133	5200	5264	5329		
61	5394	5459	5525	5590	5655	5720	5785	5851	5916	5981		
62	6046	6111	6177	6242	6307	6372	6437	6503	6568	6633		
63	6698	6763	6828	6894	6959	7024	7089	7154	7219	7285		
64	7350	7415	7480	7545	7611	7676	7741	7806	7871	7936		
65	8002	8067	8132	8197	8262	8327	8392	8458	8523	8588		
66	8653	8718	8783	8848	8914	8979	9044	9109	9174	9239	65.1	
67	9305	9370	9435	9500	9565	9630	9695	9760	9826	9891		
68	9956	0021	0086	0151	0216	0282	0347	0412	0477	0542		
69	824.0607	0672	0737	0802	0868	0933	0998	1063	1128	1193		
6670	1258	1323	1389	1454	1519	1584	1649	1714	1779	1844		
71	1909	1974	2040	2105	2170	2235	2300	2365	2430	2495		
72	2560	2625	2691	2756	2821	2886	2951	3016	3081	3146		
73	3211	3276	3341	3406	3472	3537	3602	3667	3732	3797		
74	3862	3927	3992	4057	4122	4187	4252	4317	4383	4448		
75	4513	4578	4643	4708	4773	4838	4903	4968	5033	5098		
76	5163	5228	5293	5358	5423	5488	5554	5619	5684	5749	65	
77	5814	5879	5944	6009	6074	6139	6204	6269	6334	6399		
78	6464	6529	6594	6659	6724	6789	6854	6919	6984	7049		
79	7114	7179	7244	7309	7374	7439	7505	7570	7635	7700		
6680	7765	7830	7895	7960	8025	8090	8155	8220	8285	8350		65
81	8415	8480	8545	8610	8675	8740	8805	8870	8935	9000		1-45
82	9065	9130	9195	9260	9325	9390	9455	9520	9585	9650		2-13
83	9715	9780	9845	9910	9974	0039	0104	0169	0234	0299		3-19
84	825.0364	0429	0494	0559	0624	0689	0754	0819	0884	0949		4-26
85	1014	1079	1144	1209	1274	1339	1404	1469	1534	1599		5-32
86	1664	1729	1794	1859	1923	1988	2053	2118	2183	2248		6-39
87	2313	2378	2443	2508	2573	2638	2703	2768	2833	2898	64.9	7-45
88	2963	3028	3093	3157	3222	3287	3352	3417	3482	3547		8-52
89	3612	3677	3742	3807	3872	3937	4001	4066	4131	4196		9-58
6690	4261	4326	4391	4456	4521	4586	4651	4716	4781	4845		
91	4910	4975	5040	5105	5170	5235	5300	5365	5429	5494		
92	5559	5624	5689	5754	5819	5884	5949	6014	6078	6143		
93	6208	6273	6338	6403	6468	6533	6598	6662	6727	6792		
94	6857	6922	6987	7052	7117	7181	7246	7311	7376	7441		
95	7506	7571	7635	7700	7765	7830	7895	7960	8025	8089		
96	8154	8219	8284	8349	8414	8479	8544	8608	8673	8738		
97	8803	8868	8933	8997	9062	9127	9192	9257	9322	9387	64.8	
98	9451	9516	9581	9646	9711	9776	9840	9905	9970	0035		
99	826.0100	0165	0229	0294	0359	0424	0489	0554	0618	0683		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Vnum	0	1	2	3	4	5	6	7	8	9	D	Pts.
5700	826.0740	0813	0878	0942	1007	1072	1137	1202	1267	1331		
01	1396	1461	1526	1591	1655	172	1785	1850	1915	1979		
02	2044	2109	2174	2239	2303	2368	2433	2498	2563	2627		
03	2692	2757	2822	2887	2951	3016	3081	3146	3210	3275		
04	3340	3405	3470	3534	3599	3664	3729	3793	3858	3923		
05	3988	4053	4117	4182	4247	4312	4376	4441	4506	4571		
06	4635	4700	4765	4830	4894	4959	5024	5089	5154	5218		
07	5283	5348	5413	5477	5542	5607	5672	5736	5801	5866	54.7	
08	5931	5995	6060	6125	6189	6254	6319	6384	6448	6513		
09	6578	6643	6707	6772	6837	6902	6966	7031	7096	7160		
6710	7225	7290	7355	7419	7484	7549	7613	7678	7743	7808		
11	7872	7937	8002	8066	8131	8196	8261	8325	8390	8455		
12	8519	8584	8649	8714	8778	8843	8908	8972	9037	9102		
13	9166	9231	9296	9360	9425	9490	9555	9619	9684	9749		
14	9813	9878	9943	10007	10072	10137	10201	10266	10331	10395		
15	827.0460	0525	0589	0654	0719	0783	0848	0913	0977	1042		
16	1107	1171	1236	1301	1365	1430	1495	1559	1624	1689		
17	1753	1818	1883	1947	2012	2077	2141	2206	2271	2335		
18	2400	2465	2529	2594	2659	2723	2788	2852	2917	2982	54.6	
19	3046	3111	3176	3240	3305	3370	3434	3499	3563	3628		
6720	3693	3757	3822	3887	3951	4016	4080	4145	4210	4274		
21	4339	4404	4468	4533	4597	4662	4727	4791	4856	4920		
22	4985	5050	5114	5179	5243	5308	5373	5437	5502	5566		
23	5631	5696	5760	5825	5889	5954	6019	6083	6148	6212		
24	6277	6342	6406	6471	6535	6600	6665	6729	6794	6858		
25	6923	6987	7052	7117	7181	7246	7310	7375	7439	7504		
26	7569	7633	7698	7762	7827	7891	7956	8021	8085	8150		
27	8214	8279	8343	8408	8472	8537	8602	8666	8731	8795		
28	8860	8924	8989	9053	9118	9183	9247	9312	9376	9441	64.5	
29	9505	9570	9634	9699	9763	9828	9892	9957	10022	10086		
6730	828.0151	0215	0280	0344	0409	0473	0538	0602	0667	0731	64.6	
31	0796	0860	0925	0989	1054	1118	1183	1247	1312	1376	1—6	
32	1441	1505	1570	1635	1699	1764	1828	1893	1957	2022	2—13	
33	2086	2151	2215	2280	2344	2409	2473	2538	2602	2667	3—15	
34	2731	2796	2860	2925	2989	3054	3118	3182	3247	3311	4—26	
35	3376	3440	3505	3569	3634	3698	3763	3827	3892	3956	5—32	
36	4021	4085	4150	4214	4279	4343	4408	4472	4536	4601	6—39	
37	4665	4730	4794	4859	4923	4988	5052	5117	5181	5246	7—45	
38	5310	5374	5439	5503	5568	5632	5697	5761	5826	5890	64.4	52
39	5955	6019	6083	6148	6212	6277	6341	6406	6470	6534	9—58	
6740	6599	6663	6728	6792	6857	6921	6986	7050	7114	7179		
41	7243	7308	7372	7436	7501	7565	7630	7694	7759	7823		
42	7887	7952	8016	8081	8145	8210	8274	8338	8403	8467		
43	8532	8596	8660	8725	8789	8854	8918	8982	9047	9111		
44	9176	9240	9304	9369	9433	9498	9562	9626	9691	9755		
45	9820	9884	9948	10013	10077	10141	10206	10270	10335	10399		
46	829.0453	0528	0592	0656	0721	0785	0850	0914	0978	1043		
47	1107	1171	1236	1300	1365	1429	1493	1558	1622	1686		
48	1751	1815	1879	1944	2008	2072	2137	2201	2266	2330		
49	2394	2459	2523	2587	2652	2716	2780	2845	2909	2973	64.3	
Vnum	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 67500. L. 829

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
6750	829.3038	3102	3166	3231	3295	3359	3424	3488	3552	3617		
51	3681	3745	3810	3874	3938	4003	4067	4131	4196	4260		
52	434	4389	4453	4517	4582	4646	4710	4775	4839	4903		
53	4967	5032	5096	5160	5225	5289	5353	5418	5482	5546		
54	5611	5675	5739	5803	5868	5932	5996	6061	6125	6189		
55	6254	6318	6382	6446	6511	6575	6639	6704	6768	6832		
56	6896	6961	7025	7089	7153	7218	7282	7346	7411	7475		
57	7539	7603	7668	7732	7796	7860	7925	7989	8053	8118		
58	8182	8246	8310	8375	8439	8503	8567	8632	8696	8760		
59	8824	8889	8953	9017	9081	9146	9210	9274	9338	9402	64.2	
6760	9467	9531	9595	9660	9724	9788	9852	9917	9981	0045		
61	830.0109	0174	0238	0302	0366	0430	0495	0559	0623	0687		
62	0752	0816	0880	0944	1009	1073	1137	1201	1265	1330		
63	1394	1458	1522	1586	1651	1715	1779	1843	1908	1972		
64	2036	2100	2164	2229	2293	2357	2421	2485	2550	2614		
65	2678	2742	2806	2871	2935	2999	3063	3127	3192	3256		
66	3320	3384	3448	3512	3577	3641	3705	3769	3833	3898		
67	3962	4026	4090	4154	4218	4283	4347	4411	4475	4539		
68	4604	4668	4732	4796	4860	4924	4988	5053	5117	5181		
69	5245	5309	5373	5438	5502	5566	5630	5694	5758	5822		
6770	5887	5951	6015	6079	6143	6207	6272	6336	6400	6464	64.1	
71	6528	6592	6656	6721	6785	6849	6913	6977	7041	7105		
72	7169	7234	7298	7362	7426	7490	7554	7618	7682	7747		
73	7811	7875	7939	8003	8067	8131	8195	8260	8324	8388		
74	8452	8516	8580	8644	8708	8772	8837	8901	8965	9029		
75	9093	9157	9221	9285	9349	9413	9478	9542	9606	9670		
76	9734	9798	9862	9926	9990	0054	0118	0183	0247	0311		
77	831.0375	0439	0503	0567	0631	0695	0759	0823	0887	0952		
78	1016	1080	1144	1208	1272	1336	1400	1464	1528	1592		
79	1656	1720	1784	1848	1913	1977	2041	2105	2169	2233		
6780	2297	2361	2425	2489	2553	2617	2681	2745	2809	2873		64
81	2937	3001	3065	3130	3194	3258	3322	3386	3450	3514	64	1-6
82	3578	3642	3706	3770	3834	3898	3962	4026	4090	4154		2-13
83	4218	4282	4346	4410	4474	4538	4602	4666	4730	4794		3-19
84	4858	4922	4986	5050	5114	5178	5242	5306	5370	5434		4-26
85	5499	5562	5626	5690	5754	5818	5883	5947	6011	6075		5-32
86	6139	6203	6266	6330	6394	6458	6522	6586	6650	6714		6-38
87	6778	6842	6906	6970	7034	7098	7162	7226	7290	7354		7-45
88	7418	7482	7546	7610	7674	7738	7802	7866	7930	7994		8-51
89	8058	8122	8186	8250	8314	8378	8442	8506	8570	8634		9-58
6790	8698	8762	8826	8890	8954	9017	9081	9145	9209	9273		
91	9337	9401	9465	9529	9593	9657	9721	9785	9849	9913	63.9	
92	9977	0041	0105	0169	0232	0296	0360	0424	0488	0552		
93	832.0616	0680	0744	0808	0872	0936	1000	1064	1128	1191		
94	1255	1319	1383	1447	1511	1575	1639	1703	1767	1831		
95	1895	1958	2022	2086	2150	2214	2278	2342	2406	2470		
96	2534	2598	2662	2725	2789	2853	2917	2981	3045	3109		
97	3173	3237	3300	3364	3428	3492	3556	3620	3684	3748		
98	3812	3875	3939	4003	4067	4131	4195	4259	4323	4386		
99	4450	4514	4578	4642	4706	4770	4834	4897	4961	5025		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 68000. L. 832.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
5800	832.5089	5153	5217	5281	5345	5408	5472	5536	5600	5664		64
01	5728	5792	5855	5919	5983	6047	6111	6175	6239	6303		1-6
02	6366	6430	6494	6558	6622	6685	6749	6813	6877	6941	63.8	2-13
03	7005	7068	7132	7196	7260	7324	7388	7452	7515	7579		3-19
04	7643	7707	7771	7834	7898	7962	8026	8090	8154	8217		4-26
05	8281	8345	8409	8473	8537	8600	8664	8728	8792	8856		5-32
06	8919	8983	9047	9111	9175	9238	9302	9366	9430	9494		6-38
07	9558	9621	9685	9749	9813	9876	9940	0004	0068	0132		7-45
08	833.0195	0259	0323	0387	0451	0514	0578	0642	0706	0770		8-51
09	0833	0897	0961	1025	1088	1152	1216	1280	1344	1407		9-58
6810	1471	1535	1599	1662	1726	1790	1854	1917	1981	2045		
11	2109	2173	2236	2300	2364	2428	2491	2555	2619	2683		
12	2746	2810	2874	2938	3001	3065	3129	3193	3256	3320	63.7	
13	3384	3448	3511	3575	3639	3703	3766	3830	3894	3958		
14	4021	4085	4149	4212	4276	4340	4404	4467	4531	4595		
15	4659	4722	4786	4850	4913	4977	5041	5105	5168	5232		
16	5296	5359	5423	5487	5551	5614	5678	5742	5805	5869		
17	5933	5997	6060	6124	6188	6251	6315	6379	6443	6506		
18	6570	6634	6697	6761	6825	6888	6952	7016	7079	7143		
19	7207	7271	7334	7398	7462	7525	7589	7653	7716	7780		
6820	7844	7907	7971	8035	8098	8162	8226	8289	8353	8417		
21	8480	8544	8608	8671	8735	8799	8862	8926	8990	9053		
22	9117	9181	9244	9308	9372	9435	9499	9563	9626	9690		
23	9754	9817	9881	9945	0008	0072	0136	0199	0263	0326	63.6	
24	834.0390	0454	0517	0581	0645	0708	0772	0836	0899	0963		
25	1027	1090	1154	1217	1281	1345	1408	1472	1536	1599		
26	1663	1726	1790	1854	1917	1981	2045	2108	2172	2235		
27	2299	2363	2426	2490	2553	2617	2681	2744	2808	2871		
28	2935	2999	3062	3126	3189	3253	3317	3380	3444	3507		
29	3571	3635	3698	3762	3825	3889	3953	4016	4080	4143		
6830	4207	4271	4334	4398	4461	4525	4588	4652	4716	4779		
31	4843	4906	4970	5034	5097	5161	5224	5288	5351	5415		
32	5479	5542	5606	5669	5733	5796	5860	5923	5987	6051		
33	6114	6178	6241	6305	6368	6432	6495	6559	6623	6686		
34	6750	6813	6877	6940	7004	7067	7131	7195	7258	7322	63.5	
35	7385	7449	7512	7576	7639	7703	7766	7830	7893	7957		
36	8021	8084	8148	8211	8275	8338	8402	8465	8529	8592		
37	8656	8719	8783	8846	8910	8973	9037	9100	9164	9227		
38	9291	9354	9418	9481	9545	9608	9672	9735	9799	9862		
39	9926	9989	0053	0116	0180	0243	0307	0370	0434	0497		
6840	835.0561	0624	0688	0751	0815	0878	0942	1005	1069	1132		63.5
41	1196	1259	1323	1386	1450	1513	1577	1640	1704	1767		1-6
42	1831	1894	1958	2021	2085	2148	2211	2275	2338	2402		2-13
43	2465	2529	2592	2656	2719	2783	2846	2910	2973	3037		3-19
44	3100	3163	3227	3290	3354	3417	3481	3544	3608	3671		4-25
45	3735	3798	3861	3925	3988	4052	4115	4179	4242	4305	63.4	5-32
46	4369	4432	4496	4559	4623	4686	4750	4813	4876	4940		6-38
47	5003	5067	5130	5194	5257	5320	5384	5447	5511	5574		7-44
48	5638	5701	5764	5828	5891	5955	6018	6081	6145	6208		8-51
49	6272	6335	6398	6462	6525	6589	6652	6715	6779	6842		9-57
	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 68500. L. 835

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6850	835	6906	6969	7032	7096	7159	7223	7286	7349	7413	7476	
51		7540	7603	7666	7730	7793	7857	7920	7983	8047	8110	
52		8174	8237	8300	8364	8427	8490	8554	8617	8681	8744	
53		8807	8871	8934	8997	9061	9124	9187	9251	9314	9378	
54		9441	9504	9568	9631	9694	9758	9821	9884	9948	0011	
55	836	0075	0138	0201	0265	0328	0391	0455	0518	0581	0645	53.3
56		0708	0771	0835	0898	0961	1025	1088	1151	1215	1278	
57		1341	1405	1468	1531	1595	1658	1721	1785	1848	1911	
58		1975	2038	2101	2165	2228	2291	2355	2418	2481	2545	
59		2608	2671	2735	2798	2861	2925	2988	3051	3114	3178	
6860		3241	3304	3368	3431	3494	3558	3621	3684	3748	3811	
61		3874	3937	4001	4064	4127	4191	4254	4317	4381	4444	
62		4507	4570	4634	4697	4760	4824	4887	4950	5013	5077	
63		5140	5203	5266	5330	5393	5456	5520	5583	5646	5709	
64		5773	5836	5899	5963	6026	6089	6152	6216	6279	6342	
65		6405	6469	6532	6595	6658	6722	6785	6848	6911	6975	53.2
66		7058	7121	7184	7248	7291	7354	7417	7481	7544	7607	
67		7670	7734	7797	7860	7923	7987	8050	8113	8176	8240	
68		8303	8366	8429	8493	8556	8619	8682	8745	8809	8872	
69		8935	8998	9062	9125	9188	9251	9314	9378	9441	9504	
6870		9567	9631	9694	9757	9820	9883	9947	0010	0073	0136	
71	837	0199	0263	0326	0389	0452	0515	0579	0642	0705	0768	
72		0832	0895	0958	1021	1084	1147	1211	1274	1337	1400	
73		1463	1527	1590	1653	1716	1779	1843	1906	1969	2032	
74		2095	2158	2222	2285	2348	2411	2474	2538	2601	2664	
75		2727	2790	2853	2916	2980	3043	3106	3169	3232	3295	
76		3359	3422	3485	3548	3611	3674	3738	3801	3864	3927	
77		3990	4053	4116	4180	4243	4306	4369	4432	4495	4559	63.1
78		4622	4685	4748	4811	4874	4937	5000	5064	5127	5190	
79		5253	5316	5379	5442	5506	5569	5632	5695	5758	5821	
6880		5884	5947	6011	6074	6137	6200	6263	6326	6389	6452	
81		6516	6579	6642	6705	6768	6831	6894	6957	7020	7084	
82		7147	7210	7273	7336	7399	7462	7525	7588	7651	7715	
83		7778	7841	7904	7967	8030	8093	8156	8219	8282	8345	
84		8409	8472	8535	8598	8661	8724	8787	8850	8913	8976	
85		9039	9102	9166	9229	9292	9355	9418	9481	9544	9607	
86		9670	9733	9796	9859	9922	9985	0049	0112	0175	0238	
87	838	0301	0364	0427	0490	0553	0616	0679	0742	0805	0868	
88		0931	0994	1057	1120	1184	1247	1310	1373	1436	1499	63
89		1562	1625	1688	1751	1814	1877	1940	2003	2066	2129	
6890		2192	2255	2318	2381	2444	2507	2570	2633	2696	2759	63
91		2822	2885	2948	3012	3075	3138	3201	3264	3327	3390	1—5
92		3453	3516	3579	3642	3705	3768	3831	3894	3957	4020	2—13
93		4083	4146	4209	4272	4335	4398	4461	4524	4587	4650	3—19
94		4713	4776	4839	4902	4965	5028	5091	5154	5217	5280	4—25
95		5343	5406	5469	5532	5595	5658	5721	5784	5847	5910	5—31
96		5973	6035	6098	6161	6224	6287	6350	6413	6476	6539	6—38
97		6602	6665	6728	6791	6854	6917	6980	7043	7106	7169	7—44
98		7232	7295	7358	7421	7484	7547	7610	7673	7735	7798	8—50
99		7861	7924	7987	8050	8113	8176	8239	8302	8365	8428	62.99—57
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 69000. L. 838

Logarithms.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
6900	838.8491	8554	8617	8680	8743	8806	8868	8931	8994	9057		63
01	9120	9183	9246	9309	9372	9435	9498	9561	9624	9687		1-6
02	9750	9812	9875	9938	0001	0064	0127	0190	0253	0316		2-13
03	839.0379	0442	0505	0567	0630	0693	0756	0819	0882	0945		3-19
04	1008	1071	1134	1196	1259	1322	1385	1448	1511	1574		4-25
05	1637	1700	1763	1825	1888	1951	2014	2077	2140	2203		5-31
06	2266	2329	2391	2454	2517	2580	2643	2706	2769	2832		6-38
07	2895	2957	3020	3083	3146	3209	3272	3335	3398	3460		7-44
08	3523	3586	3649	3712	3775	3838	3900	3963	4026	4089		8-50
09	4152	4215	4278	4340	4403	4466	4529	4592	4655	4718		9-57
6910	4780	4843	4906	4969	5032	5095	5158	5220	5283	5346	62.8	
11	5409	5472	5535	5597	5660	5723	5786	5849	5912	5974		
12	6037	6100	6163	6226	6289	6351	6414	6477	6540	6603		
13	6666	6728	6791	6854	6917	6980	7042	7105	7168	7231		
14	7294	7357	7419	7482	7545	7608	7671	7733	7796	7859		
15	7922	7985	8047	8110	8173	8236	8299	8361	8424	8487		
16	8550	8613	8675	8738	8801	8864	8927	8989	9052	9115		
17	9178	9240	9303	9366	9429	9492	9554	9617	9680	9743		
18	9806	9868	9931	9994	0057	0119	0182	0245	0308	0370		
19	840.0433	0496	0559	0622	0684	0747	0810	0873	0935	0998		
6920	1061	1124	1186	1249	1312	1375	1437	1500	1563	1626		
21	1688	1751	1814	1877	1939	2002	2065	2128	2190	2253	62.7	
22	2316	2379	2441	2504	2567	2630	2692	2755	2818	2881		
23	2943	3006	3069	3131	3194	3257	3320	3382	3445	3508		
24	3571	3633	3696	3759	3821	3884	3947	4010	4072	4135		
25	4198	4260	4323	4386	4449	4511	4574	4637	4699	4762		
26	4825	4888	4950	5013	5076	5138	5201	5264	5326	5389		
27	5452	5515	5577	5640	5703	5765	5828	5891	5953	6016		
28	6079	6141	6204	6267	6329	6392	6455	6518	6580	6643		
29	6706	6768	6831	6894	6956	7019	7082	7144	7207	7270		
6930	7332	7395	7458	7520	7583	7646	7708	7771	7834	7896		
31	7959	8022	8084	8147	8210	8272	8335	8398	8450	8523		
32	8586	8648	8711	8773	8836	8899	8961	9024	9087	9149	62.6	
33	9212	9275	9337	9400	9463	9525	9588	9650	9713	9776		
34	9838	9901	9964	0026	0089	0151	0214	0277	0339	0402		
35	841.0465	0527	0590	0652	0715	0778	0840	0903	0966	1028		
36	1091	1153	1216	1279	1341	1404	1466	1529	1592	1654		
37	1717	1780	1842	1905	1967	2030	2093	2155	2218	2280		
38	2343	2406	2468	2531	2593	2656	2718	2781	2844	2906		
39	2969	3031	3094	3157	3219	3282	3344	3407	3469	3532		
6940	3595	3657	3720	3782	3845	3908	3970	4033	4095	4158		
41	4220	4283	4346	4408	4471	4533	4596	4658	4721	4783		
42	4846	4909	4971	5034	5096	5159	5221	5284	5346	5409		
43	5472	5534	5597	5659	5722	5784	5847	5909	5972	6035	62.5	
44	6097	6160	6222	6285	6347	6410	6472	6535	6597	6660		
45	6723	6785	6848	6910	6973	7035	7098	7160	7223	7285		
46	7348	7410	7473	7535	7598	7660	7723	7785	7848	7910		
47	7973	8035	8098	8160	8223	8286	8348	8411	8473	8536		
48	8598	8661	8723	8786	8848	8911	8973	9036	9098	9161		
49	9223	9286	9348	9411	9473	9536	9598	9661	9723	9786		
Num	0	1	2	3	4	5	6	7	8	9	D	Po

TO 101000.

N. 69500. L. 841

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
6950	841.9848	9910	9973	0035	0098	0160	0223	0285	0348	0410		62.5
51	842.0473	0535	0598	0660	0723	0785	0848	0910	0973	1035		1—6
52	1098	1160	1223	1285	1347	1410	1472	1535	1597	1660		2—12
53	1722	1785	1847	1910	1972	2035	2097	2159	2222	2284		3—19
54	2347	2409	2472	2534	2597	2659	2722	2784	2846	2909	62.4	4—25
55	2971	3034	3096	3159	3221	3284	3346	3408	3471	3533		5—31
56	3596	3658	3721	3783	3845	3908	3970	4033	4095	4158		6—37
57	4220	4282	4345	4407	4470	4532	4595	4657	4719	4782		7—44
58	4844	4907	4969	5031	5094	5156	5219	5281	5343	5406		8—50
59	5468	5531	5593	5656	5718	5780	5843	5905	5968	6030		9—56
6960	6092	6155	6217	6280	6342	6404	6467	6529	6592	6654		
61	6716	6779	6841	6903	6966	7028	7091	7153	7215	7278		
62	7340	7403	7465	7527	7590	7652	7714	7777	7839	7902		
63	7964	8026	8089	8151	8213	8276	8338	8400	8463	8525		
64	8588	8650	8712	8775	8837	8899	8962	9024	9086	9149		
65	9211	9274	9336	9398	9461	9523	9585	9648	9710	9772	62.3	
66	9835	9897	9959	0022	0084	0146	0209	0271	0333	0396		
67	343.0458	0520	0583	0645	0707	0770	0832	0894	0957	1019		
68	1081	1144	1206	1268	1331	1393	1455	1518	1580	1642		
69	1705	1767	1829	1892	1954	2016	2078	2141	2203	2265		
6970	2328	2390	2452	2515	2577	2639	2702	2764	2826	2888		
71	2951	3013	3075	3138	3200	3262	3325	3387	3449	3511		
72	3574	3636	3698	3761	3823	3885	3947	4010	4072	4134		
73	4197	4259	4321	4383	4446	4508	4570	4633	4695	4757		
74	4819	4882	4944	5006	5068	5131	5193	5255	5318	5380		
75	5442	5504	5567	5629	5691	5753	5816	5878	5940	6002		
76	6065	6127	6189	6251	6314	6376	6438	6500	6563	6625		
77	6687	6749	6812	6874	6936	6998	7061	7123	7185	7247	62.2	
78	7310	7372	7434	7496	7559	7621	7683	7745	7808	7870		
79	7932	7994	8056	8119	8181	8243	8305	8368	8430	8492		
6980	8554	8616	8679	8741	8803	8865	8927	8990	9052	9114		
81	9176	9239	9301	9363	9425	9487	9550	9612	9674	9736		
82	9798	9861	9923	9985	0047	0109	0172	0234	0296	0358		
83	844.0420	0483	0545	0607	0669	0731	0794	0856	0918	0980		
84	1042	1104	1167	1229	1291	1353	1415	1478	1540	1602		
85	1664	1726	1788	1851	1913	1975	2037	2099	2161	2224		
86	2286	2348	2410	2472	2534	2597	2659	2721	2783	2845		
87	2907	2970	3032	3094	3156	3218	3280	3342	3405	3467		
88	3529	3591	3653	3715	3778	3840	3902	3964	4026	4088	62.1	
89	4150	4212	4275	4337	4399	4461	4523	4585	4647	4710		
6990	4772	4834	4896	4958	5020	5082	5144	5207	5269	5331		62
91	5393	5455	5517	5579	5641	5704	5766	5828	5890	5952		1—6
92	6014	6076	6138	6200	6263	6325	6387	6449	6511	6573		2—12
93	6635	6697	6759	6822	6884	6946	7008	7070	7132	7194		3—19
94	7256	7318	7380	7443	7505	7567	7629	7691	7753	7815		4—25
95	7877	7939	8001	8063	8125	8188	8250	8312	8374	8436		5—31
96	8498	8560	8622	8684	8746	8808	8870	8932	8995	9057		5—37
97	9119	9181	9243	9305	9367	9429	9491	9553	9615	9677		7—43
98	9739	9801	9863	9926	9988	0050	0112	0174	0236	0298		8—50
99	845.0360	0422	0484	0546	0608	0670	0732	0794	0856	0918	62	5—56
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 70000. L. 845.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7000	845.0980	1042	1104	1166	1225	1291	1353	1415	1477	1539	62	62
01	1601	1663	1725	1787	1845	1911	1973	2035	2097	2159		1-6
02	2221	2283	2345	2407	2469	2531	2593	2655	2717	2779		2-12
03	2841	2903	2965	3027	3089	3151	3213	3275	3337	3399		3-19
04	3461	3523	3585	3647	3709	3771	3833	3895	3957	4019		4-25
05	4081	4143	4205	4267	4329	4391	4453	4515	4577	4639		5-31
06	4701	4763	4825	4887	4949	5011	5073	5135	5197	5259		6-37
07	5321	5383	5445	5507	5569	5631	5693	5755	5817	5879		7-43
08	5941	6003	6065	6127	6189	6251	6313	6375	6437	6499		8-50
09	6561	6623	6685	6747	6809	6871	6933	6995	7057	7119		9-56
7010	7180	7242	7304	7366	7428	7490	7552	7614	7676	7738	61.9	
11	7800	7862	7924	7986	8047	8109	8171	8233	8295	8357		
12	8419	8481	8543	8605	8667	8729	8791	8853	8914	8976		
13	9038	9100	9162	9224	9286	9348	9410	9472	9534	9596		
14	9658	9719	9781	9843	9905	9967	0029	0091	0153	0215		
15	846.0277	0339	0401	0462	0524	0586	0648	0710	0772	0834		
16	0896	0958	1020	1081	1143	1205	1267	1329	1391	1453		
17	1515	1577	1638	1700	1762	1824	1886	1948	2010	2072		
18	2134	2195	2257	2319	2381	2443	2505	2567	2629	2690		
19	2752	2814	2876	2938	3000	3062	3124	3185	3247	3309		
7220	3371	3433	3495	3557	3619	3680	3742	3804	3866	3928		
21	3990	4052	4113	4175	4237	4299	4361	4423	4485	4546		
22	4608	4670	4732	4794	4856	4917	4979	5041	5103	5165	61.8	
23	5227	5288	5350	5412	5474	5536	5598	5659	5721	5783		
24	5845	5907	5969	6030	6092	6154	6216	6278	6340	6401		
25	6463	6525	6587	6649	6711	6772	6834	6896	6958	7020		
26	7081	7143	7205	7267	7329	7390	7452	7514	7576	7638		
27	7700	7761	7823	7885	7947	8008	8070	8132	8194	8256		
28	8318	8379	8441	8503	8565	8626	8688	8750	8812	8874		
29	8935	8997	9059	9121	9183	9244	9306	9368	9430	9491		
7030	9553	9615	9677	9739	9800	9862	9924	9986	0047	0109		
31	847.0171	0233	0294	0356	0418	0480	0542	0603	0665	0727		
32	0789	0850	0912	0974	1036	1097	1159	1221	1283	1344		
33	1406	1468	1530	1591	1653	1715	1777	1838	1900	1962	61.7	
34	2024	2085	2147	2209	2271	2332	2394	2456	2517	2579		
35	2641	2703	2765	2826	2888	2950	3011	3073	3135	3197		
36	3258	3320	3382	3443	3505	3567	3629	3690	3752	3814		
37	3876	3937	3999	4061	4122	4184	4246	4307	4369	4431		
38	4493	4554	4616	4678	4739	4801	4863	4925	4986	5048		
39	5110	5171	5233	5295	5356	5418	5480	5541	5603	5665		
7040	5727	5789	5850	5912	5973	6035	6097	6158	6220	6282		
41	6343	6405	6467	6528	6590	6652	6713	6775	6837	6899		
42	6960	7022	7084	7145	7207	7269	7330	7392	7454	7515		
43	7577	7638	7700	7762	7823	7885	7947	8008	8070	8132		
44	8193	8255	8317	8378	8440	8502	8563	8625	8687	8748		
45	8810	8872	8933	8995	9057	9118	9180	9241	9303	9365	61.6	
46	9426	9488	9550	9611	9673	9735	9796	9858	9919	9981		
47	348.0043	0104	0166	0228	0289	0351	0412	0474	0536	0597		
48	0659	0721	0783	0844	0905	0967	1029	1090	1152	1213		
49	1275	1337	1398	1460	1521	1583	1645	1706	1768	1830		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 70500. L. 848

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7050	48	1891	1953	2014	2076	2138	2199	2261	2322	2384	2446	
51	2507	2569	2630	2692	2754	2815	2877	2938	3000	3061		
52	3123	3185	3246	3308	3369	3431	3493	3554	3616	3677		
53	3739	3800	3862	3924	3985	4047	4108	4170	4231	4293		
54	4355	4416	4478	4539	4601	4662	4724	4786	4847	4909		
55	4970	5032	5093	5155	5216	5278	5340	5401	5463	5524		
56	5586	5647	5709	5770	5832	5893	5955	6017	6078	6140	61.5	
57	6201	6263	6324	6386	6447	6509	6570	6632	6693	6755		
58	6817	6878	6940	7001	7063	7124	7186	7247	7309	7370		
59	7432	7493	7555	7616	7678	7739	7801	7862	7924	7985		
7060	8047	8109	8170	8232	8293	8355	8416	8478	8539	8601	61.5	
61	8662	8724	8785	8847	8908	8970	9031	9093	9154	9216	1-6	
62	9277	9339	9400	9462	9523	9585	9646	9708	9769	9831	2-12	
63	9892	9954	0015	0076	0138	0199	0261	0322	0384	0445	3-18	
64	849.0507	0568	0630	0691	0753	0814	0876	0937	0999	1060	4-25	
65	1122	1183	1245	1306	1368	1429	1490	1552	1613	1675	5-31	
66	1736	1798	1859	1921	1982	2044	2105	2167	2228	2289	6-37	
67	2356	2417	2479	2539	2597	2658	2720	2781	2842	2904	61.4	
68	2965	3027	3088	3150	3211	3273	3334	3396	3457	3518	7-43	
69	3580	3641	3703	3764	3826	3887	3948	4010	4071	4133	8-49	
7070	4194	4256	4317	4378	4440	4501	4563	4624	4686	4747	9-55	
71	4808	4870	4931	4993	5054	5115	5177	5238	5300	5361		
72	5423	5484	5545	5607	5668	5730	5791	5852	5914	5975		
73	6037	6098	6159	6221	6282	6344	6405	6466	6528	6589		
74	6651	6712	6773	6835	6896	6958	7019	7080	7142	7203		
75	7264	7326	7387	7449	7510	7571	7633	7694	7755	7817		
76	7878	7940	8001	8062	8124	8185	8246	8308	8369	8431		
77	8492	8553	8615	8676	8737	8799	8860	8922	8983	9044		
78	9106	9167	9228	9290	9351	9412	9474	9535	9596	9658		
79	9719	9780	9842	9903	9965	0026	0087	0149	0210	0271	61.3	
7080	850.0333	0394	0455	0517	0578	0639	0701	0762	0823	0885		
81	0946	1007	1069	1130	1191	1253	1314	1375	1437	1498		
82	1559	1621	1682	1743	1805	1866	1927	1988	2050	2111		
83	2172	2234	2295	2356	2418	2479	2540	2602	2663	2724		
84	2786	2847	2908	2969	3031	3092	3153	3215	3276	3337		
85	3399	3460	3521	3582	3644	3705	3766	3828	3889	3950		
86	4011	4073	4134	4195	4257	4318	4379	4440	4502	4563		
87	4624	4686	4747	4808	4869	4931	4992	5053	5115	5176		
88	5237	5298	5360	5421	5482	5543	5605	5666	5727	5788		
89	5850	5911	5972	6034	6095	6156	6217	6279	6340	6401		
7090	6462	6524	6585	6646	6707	6769	6830	6891	6952	7014	61	
91	7075	7136	7197	7259	7320	7381	7442	7504	7565	7626	61.2	
92	7687	7749	7810	7871	7932	7993	8055	8116	8177	8238	2-12	
93	8300	8361	8422	8483	8545	8606	8667	8728	8789	8851	3-18	
94	8912	8973	9034	9095	9157	9218	9279	9340	9402	9463	4-24	
95	9524	9585	9646	9708	9769	9830	9891	9952	0014	0075	5-30	
96	851.0136	0197	0258	0320	0381	0442	0503	0564	0626	0687	6-37	
97	0748	0809	0870	0932	0993	1054	1115	1176	1238	1299	7-43	
98	1360	1421	1482	1544	1605	1666	1727	1788	1849	1911	8-49	
99	1972	2033	2094	2155	2216	2278	2339	2400	2461	2522	9-55	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 71000. L. 851.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7100	851.2583	2645	2700	2767	2828	2889	2950	3012	3073	3134		61
01	3195	3256	3317	3379	3440	3501	3562	3623	3684	3746	1-6	
02	3807	3868	3929	3990	4051	4112	4174	4235	4296	4357	61.1	2-12
03	4418	4479	4540	4602	4663	4724	4785	4846	4907	4968		3-18
04	5030	5091	5152	5213	5274	5335	5396	5457	5519	5580		4-24
05	5641	5702	5763	5824	5885	5946	6008	6069	6130	6191		5-30
06	6252	6313	6374	6435	6496	6558	6619	6680	6741	6802		6-37
07	6863	6924	6985	7046	7108	7169	7230	7291	7352	7413		7-43
08	7474	7535	7596	7657	7719	7780	7841	7902	7963	8024		8-49
09	8085	8146	8207	8268	8329	8391	8452	8513	8574	8635		9-55
7110	8696	8757	8818	8879	8940	9001	9062	9124	9185	9246		
11	9307	9368	9429	9490	9551	9612	9673	9734	9795	9856		
12	9917	9979	0040	0101	0162	0223	0284	0345	0406	0467		
13	852.0528	0589	0650	0711	0772	0833	0894	0955	1017	1078		
14	1139	1200	1261	1322	1383	1444	1505	1566	1627	1688	61	
15	1749	1810	1871	1932	1993	2054	2115	2176	2237	2298		
16	2359	2420	2481	2542	2604	2665	2726	2787	2848	2909		
17	2970	3031	3092	3153	3214	3275	3336	3397	3458	3519		
18	3580	3641	3702	3763	3824	3885	3946	4007	4068	4129		
19	4190	4251	4312	4373	4434	4495	4556	4617	4678	4739		
7120	4800	4861	4922	4983	5044	5105	5166	5227	5288	5349		
21	5410	5471	5532	5593	5654	5715	5776	5837	5898	5959		
22	6020	6081	6142	6203	6264	6325	6386	6447	6507	6568		
23	6629	6690	6751	6812	6873	6934	6995	7056	7117	7178		
24	7239	7300	7361	7422	7483	7544	7605	7666	7727	7788		
25	7849	7910	7971	8032	8092	8153	8214	8275	8336	8397	60.9	
26	8458	8519	8580	8641	8702	8763	8824	8885	8946	9007		
27	9068	9129	9189	9250	9311	9372	9433	9494	9555	9616		
28	9677	9738	9799	9860	9921	9982	0042	0103	0164	0225		
29	853.0286	0347	0408	0469	0530	0591	0652	0713	0773	0834		
7130	0895	0956	1017	1078	1139	1200	1261	1322	1383	1443		
31	1504	1565	1626	1687	1748	1809	1870	1931	1992	2052		
32	2113	2174	2235	2296	2357	2418	2479	2540	2600	2661		
33	2722	2783	2844	2905	2966	3027	3088	3148	3209	3270		
34	3331	3392	3453	3514	3575	3635	3696	3757	3818	3879		
35	3940	4001	4062	4122	4183	4244	4305	4366	4427	4488		
36	4548	4609	4670	4731	4792	4853	4914	4974	5035	5096		
37	5157	5218	5279	5340	5400	5461	5522	5583	5644	5705	60.8	
38	5765	5826	5887	5948	6009	6070	6130	6191	6252	6313		
39	6374	6435	6495	6556	6617	6678	6739	6800	6860	6921		
7140	6982	7043	7104	7165	7225	7286	7347	7408	7469	7530		
41	7590	7651	7712	7773	7834	7894	7955	8016	8077	8138		
42	8198	8259	8320	8381	8442	8502	8563	8624	8685	8746		
43	8807	8867	8928	8989	9050	9110	9171	9232	9293	9354		
44	9414	9475	9536	9597	9658	9718	9779	9840	9901	9962		
45	854.0022	0083	0144	0205	0265	0326	0387	0448	0509	0569		
46	0630	0691	0752	0812	0873	0934	0995	1056	1116	1177		
47	1238	1299	1359	1420	1481	1542	1602	1663	1724	1785		
48	1845	1906	1967	2028	2088	2149	2210	2271	2331	2392		
49	2453	2514	2574	2635	2696	2757	2817	2878	2939	3000	60.7	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 71500. L. 854

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
7150	8543060	3121	3182	3243	3303	3364	3425	3486	3546	3607		
51	3668	3729	3789	3850	3911	3971	4032	4093	4154	4214		
52	4275	4336	4397	4457	4518	4579	4639	4700	4761	4822		
53	4882	4943	5004	5064	5125	5186	5247	5307	5368	5429		
54	5489	5550	5611	5671	5732	5793	5854	5914	5975	6036		
55	6096	6157	6218	6278	6339	6400	6461	6521	6582	6643		
56	6703	6764	6825	6885	6946	7007	7067	7128	7189	7249		
57	7310	7371	7432	7492	7553	7614	7674	7735	7796	7856		
58	7917	7978	8038	8099	8160	8220	8281	8342	8402	8463		
59	8524	8584	8645	8706	8766	8827	8888	8948	9009	9070		
7160	9130	9191	9252	9312	9373	9433	9494	9555	9615	9676		
61	9737	9797	9858	9919	9979	0040	0101	0161	0222	0283	60.6	
62	855.0343	0404	0464	0525	0586	0646	0707	0768	0828	0889		
63	0950	1010	1071	1131	1192	1253	1313	1374	1435	1495		
64	1556	1616	1677	1738	1798	1859	1919	1980	2041	2101		
65	2162	2223	2283	2344	2404	2465	2526	2586	2647	2707		
66	2768	2829	2889	2950	3010	3071	3132	3192	3253	3313		
67	3374	3435	3495	3556	3616	3677	3738	3798	3859	3919		
68	3980	4041	4101	4162	4222	4283	4343	4404	4465	4525		
69	4586	4646	4707	4768	4828	4889	4949	5010	5070	5131		
7170	5192	5252	5313	5373	5434	5494	5555	5616	5676	5737		
71	5797	5858	5918	5979	6039	6100	6161	6221	6282	6342		
72	6403	6463	6524	6584	6645	6706	6766	6827	6887	6948		
73	7008	7069	7129	7190	7250	7311	7372	7432	7493	7553	60.5	
74	7614	7674	7735	7795	7856	7916	7977	8037	8098	8159		
75	8219	8280	8340	8401	8461	8522	8582	8643	8703	8764		
76	8824	8885	8945	9006	9066	9127	9187	9248	9308	9369		
77	9429	9490	9550	9611	9672	9732	9793	9853	9914	9974		
78	856.0035	0095	0156	0216	0277	0337	0398	0458	0519	0579		
79	0640	0700	0761	0821	0882	0942	1002	1063	1123	1184		
7180	1244	1305	1365	1426	1486	1547	1607	1668	1728	1789	60.5	
81	1849	1910	1970	2031	2091	2152	2212	2273	2333	2394	1-6	
82	2454	2514	2575	2635	2696	2756	2817	2877	2938	2998	2-12	
83	3059	3119	3180	3240	3301	3361	3421	3482	3542	3603	3-18	
84	3663	3724	3784	3845	3905	3965	4026	4086	4147	4207	60.4	4-24
85	4268	4328	4389	4449	4509	4570	4630	4691	4751	4812	5-30	
86	4872	4933	4993	5053	5114	5174	5235	5295	5356	5416	6-36	
87	5476	5537	5597	5658	5718	5779	5839	5899	5960	6020	7-42	
88	6081	6141	6202	6262	6322	6383	6443	6504	6564	6624	8-48	
89	6685	6745	6806	6866	6926	6987	7047	7108	7168	7229	9-54	
7190	7289	7349	7410	7470	7531	7591	7651	7712	7772	7832		
91	7893	7953	8014	8074	8134	8195	8255	8316	8376	8436		
92	8497	8557	8618	8678	8738	8799	8859	8919	8980	9040		
93	9101	9161	9221	9282	9342	9402	9463	9523	9584	9644		
94	9704	9765	9825	9885	9946	0006	0067	0127	0187	0248		
95	857.0308	0368	0429	0489	0549	0610	0670	0730	0791	0851		
96	0912	0972	1032	1093	1153	1213	1274	1334	1394	1455	60.3	
97	1515	1575	1636	1696	1756	1817	1877	1937	1998	2058		
98	2118	2179	2239	2299	2360	2420	2480	2541	2601	2661		
99	2722	2782	2842	2903	2963	3023	3084	3144	3204	3265		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 72000. L. 857.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7200	857.3325	3385	3446	3506	3566	3627	3687	3747	3807	3868		60
01	3928	3988	4049	4109	4169	4230	4290	4350	4411	4471		1-5
02	4531	4591	4652	4712	4772	4833	4893	4953	5014	5074		2-12
03	5134	5194	5255	5315	5375	5436	5496	5556	5616	5677		3-18
04	5737	5797	5858	5918	5978	6038	6099	6159	6219	6280		4-24
05	6340	6400	6460	6521	6581	6641	6701	6762	6822	6882		5-30
06	6943	7003	7063	7123	7184	7244	7304	7364	7425	7485		6-36
07	7545	7605	7666	7726	7786	7847	7907	7967	8027	8088		7-42
08	8148	8208	8268	8329	8389	8449	8509	8570	8630	8690	60.2	8-48
09	8750	8810	8871	8931	8991	9051	9112	9172	9232	9292		9-54
7210	9353	9413	9473	9533	9594	9654	9714	9774	9834	9895		
11	9955	0015	0075	0136	0196	0256	0316	0377	0437	0497		
12	858.0557	0617	0678	0738	0798	0858	0918	0979	1039	1099		
13	1159	1220	1280	1340	1400	1460	1521	1581	1641	1701		
14	1761	1822	1882	1942	2002	2062	2123	2183	2243	2303		
15	2363	2424	2484	2544	2604	2664	2724	2785	2845	2905		
16	2965	3025	3086	3146	3206	3266	3326	3387	3447	3507		
17	3567	3627	3687	3748	3808	3868	3928	3988	4048	4109		
18	4169	4229	4289	4349	4409	4470	4530	4590	4650	4710		
19	4770	4831	4891	4951	5011	5071	5131	5192	5252	5312		
7220	5372	5432	5492	5552	5613	5673	5733	5793	5853	5913	60.1	
21	5973	6034	6094	6154	6214	6274	6334	6394	6455	6515		
22	6575	6635	6694	6755	6815	6876	6936	6996	7056	7116		
23	7176	7236	7296	7357	7417	7477	7537	7597	7657	7717		
24	7777	7837	7898	7958	8018	8078	8138	8198	8258	8318		
25	8378	8439	8499	8559	8619	8679	8739	8799	8859	8919		
26	8980	9040	9100	9160	9220	9280	9340	9400	9460	9520		
27	9581	9641	9701	9761	9821	9881	9941	0001	0061	0121		
28	859.0181	0242	0302	0362	0422	0482	0542	0603	0662	0722		
29	0782	0842	0902	0962	1023	1083	1143	1203	1263	1323		
7230	1383	1443	1503	1563	1623	1683	1743	1803	1863	1924		
31	1984	2044	2104	2164	2224	2284	2344	2404	2464	2524		
32	2584	2644	2704	2764	2824	2884	2944	3005	3065	3125	60	
33	3185	3245	3305	3365	3425	3485	3545	3605	3665	3725		
34	3785	3845	3905	3965	4025	4085	4145	4205	4265	4325		
35	4385	4445	4505	4565	4625	4685	4746	4806	4866	4926		
36	4986	5046	5106	5166	5226	5286	5346	5406	5466	5526		
37	5586	5646	5706	5766	5826	5886	5946	6006	6066	6126		
38	6186	6246	6306	6366	6426	6486	6546	6606	6666	6726		
39	6786	6846	6906	6966	7026	7086	7146	7206	7266	7326		
7240	7386	7446	7506	7566	7626	7686	7746	7806	7866	7925		
41	7985	8045	8105	8165	8225	8285	8345	8405	8465	8525		
42	8585	8645	8705	8765	8825	8885	8945	9005	9065	9125		
43	9185	9245	9305	9365	9425	9485	9545	9605	9665	9725		
44	9784	9844	9904	9964	0024	0084	0144	0204	0264	0324	59.9	
45	860.0384	0444	0504	0564	0624	0684	0744	0803	0863	0923		
46	0983	1043	1103	1163	1223	1283	1343	1403	1463	1523		
47	1583	1643	1702	1762	1822	1882	1942	2002	2062	2122		
48	2182	2242	2302	2362	2422	2481	2541	2601	2661	2721		
49	2781	2841	2901	2961	3021	3081	3140	3200	3260	3320		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 72500. L. 860

Nam	0	1	2	3	4	5	6	7	8	9	D	Pts
7250	860	3380	3440	3500	3560	3620	3680	3739	3799	3859	3919	
51		3979	4039	4099	4159	4219	4279	4338	4398	4458	4518	
52		4578	4638	4698	4758	4817	4877	4937	4997	5057	5117	
53		5177	5237	5297	5356	5416	5476	5536	5596	5656	5716	
54		5776	5835	5895	5955	6015	6075	6135	6195	6254	6314	
55		6374	6434	6494	6554	6614	6673	6733	6793	6853	6913	
56		6973	7033	7092	7152	7212	7272	7332	7392	7452	7511	59.8
57		7571	7631	7691	7751	7811	7870	7930	7990	8050	8110	
58		8170	8229	8289	8349	8409	8469	8529	8588	8648	8708	
59		8768	8828	8888	8947	9007	9067	9127	9187	9247	9306	
7260		9366	9426	9486	9546	9605	9665	9725	9785	9845	9905	
61		9964	0024	0084	0144	0204	0263	0323	0383	0443	0503	
62	861	0562	0622	0682	0742	0802	0861	0921	0981	1041	1101	
63		1160	1220	1280	1340	1400	1459	1519	1579	1639	1699	
64		1758	1818	1878	1938	1997	2057	2117	2177	2237	2296	
65		2356	2416	2476	2536	2595	2655	2715	2775	2834	2894	
66		2954	3014	3073	3133	3193	3253	3313	3372	3432	3492	
67		3552	3611	3671	3731	3791	3850	3910	3970	4030	4089	
68		4149	4209	4269	4328	4388	4448	4508	4567	4627	4687	
69		4747	4806	4866	4926	4986	5045	5105	5165	5225	5284	59.7
7270		5344	5404	5464	5523	5583	5643	5703	5762	5822	5882	
71		5941	6001	6061	6121	6180	6240	6300	6359	6419	6479	
72		6539	6598	6658	6718	6778	6837	6897	6957	7016	7076	
73		7136	7196	7255	7315	7375	7434	7494	7554	7614	7673	
74		7733	7793	7852	7912	7972	8031	8091	8151	8211	8270	
75		8330	8390	8449	8509	8569	8628	8688	8748	8808	8867	
76		8927	8987	9046	9106	9166	9225	9285	9345	9404	9464	
77		9524	9583	9643	9703	9762	9822	9882	9941	0001	0061	
78	862	0121	0180	0240	0300	0359	0419	0479	0538	0598	0658	
79		0717	0777	0837	0896	0956	1016	1075	1135	1194	1254	
7280		1314	1373	1433	1493	1552	1612	1672	1731	1791	1851	
81		1910	1970	2031	2089	2149	2209	2268	2328	2387	2447	59.6
82		2507	2566	2626	2686	2745	2805	2865	2924	2984	3043	
83		3103	3163	3222	3282	3342	3401	3461	3520	3580	3640	
84		3699	3759	3819	3878	3938	3997	4057	4117	4176	4236	
85		4296	4355	4415	4474	4534	4594	4653	4713	4772	4832	
86		4892	4951	5011	5070	5130	5190	5249	5309	5368	5428	
87		5488	5547	5607	5666	5726	5786	5845	5905	5964	6024	
88		6084	6143	6203	6262	6322	6382	6441	6501	6560	6620	
89		6680	6739	6799	6858	6918	6977	7037	7097	7156	7216	
7290		7275	7335	7394	7454	7514	7573	7633	7692	7752	7811	59.5
91		7871	7930	7990	8050	8109	8169	8228	8288	8347	8407	1—5
92		8467	8526	8586	8645	8705	8764	8824	8883	8943	9003	2—12
93		9062	9122	9181	9241	9300	9360	9419	9479	9539	9598	3—18
94		9658	9717	9777	9836	9896	9955	0015	0074	0134	0193	4—24
95	863	0253	0312	0372	0432	0491	0551	0610	0670	0729	0789	5—3
96		0848	0908	0967	1027	1086	1146	1205	1265	1324	1384	6—36
97		1443	1503	1562	1622	1682	1741	1801	1860	1920	1979	7—42
98		2039	2098	2158	2217	2277	2336	2396	2455	2515	2574	8—48
99		2634	2693	2753	2812	2872	2931	2991	3050	3110	3169	9—54
Nam	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 73000. L. 863

Logarithms

Num.	0	1	2	3	4	5	6	7	8	9	D	Pts.
7300	863.3229	3288	3348	3407	3467	3526	3586	3645	3705	3764		59-5
01	3823	3883	3942	4002	4061	4121	4180	4240	4299	4359		1-6
02	4418	4478	4537	4597	4656	4716	4775	4835	4894	4954		2-12
03	5013	5072	5132	5191	5251	5310	5370	5429	5489	5548		3-18
04	5608	5667	5727	5786	5845	5905	5964	6024	6083	6143	59.4	4-24
05	6202	6262	6321	6381	6440	6499	6559	6618	6678	6737		5-30
06	6797	6856	6916	6975	7034	7094	7153	7213	7272	7332		6-36
07	7391	7451	7510	7569	7629	7688	7748	7807	7867	7926		7-42
08	7985	8045	8104	8164	8223	8283	8342	8401	8461	8520		8-48
09	8580	8639	8698	8758	8817	8877	8936	8996	9055	9114		9-54
7310	9174	9233	9293	9352	9411	9471	9530	9590	9649	9708		
11	9768	9827	9887	9946	0005	0065	0124	0184	0243	0302		
12	864.0362	0421	0481	0540	0599	0659	0718	0778	0837	0896		
13	0956	1015	1075	1134	1193	1253	1312	1371	1431	1490		
14	1550	1609	1668	1728	1787	1846	1906	1965	2025	2084		
15	2143	2203	2262	2321	2381	2440	2500	2559	2618	2678		
16	2737	2796	2856	2915	2974	3034	3093	3152	3212	3271		
17	3331	3390	3449	3509	3568	3627	3687	3746	3805	3865		
18	3924	3983	4043	4102	4161	4221	4280	4339	4399	4458	59.3	
19	4517	4577	4636	4695	4755	4814	4873	4933	4992	5051		
7320	5111	5170	5229	5289	5348	5407	5467	5526	5585	5645		
21	5704	5763	5823	5882	5941	6001	6060	6119	6179	6238		
22	6297	6357	6416	6475	6534	6594	6653	6712	6772	6831		
23	6890	6950	7009	7068	7128	7187	7246	7305	7365	7424		
24	7483	7543	7602	7661	7721	7780	7839	7898	7958	8017		
25	8076	8136	8195	8254	8313	8373	8432	8491	8551	8610		
26	8669	8728	8788	8847	8906	8966	9025	9084	9143	9203		
27	9262	9321	9380	9440	9499	9558	9618	9677	9736	9795		
28	9855	9914	9973	0032	0092	0151	0210	0269	0329	0388		
29	865.0447	0506	0566	0625	0684	0743	0803	0862	0921	0980		
7330	1040	1099	1158	1217	1277	1336	1395	1454	1514	1573	59.2	
31	1632	1692	1751	1810	1869	1928	1988	2047	2106	2165		
32	2225	2284	2343	2402	2461	2521	2580	2639	2698	2758		
33	2817	2876	2935	2995	3054	3113	3172	3231	3291	3350		
34	3409	3468	3527	3587	3646	3705	3764	3824	3883	3942		
35	4001	4060	4120	4179	4238	4297	4356	4416	4475	4534		
36	4593	4652	4712	4771	4830	4889	4948	5008	5067	5126		
37	5185	5244	5304	5363	5422	5481	5540	5600	5659	5718		
38	5777	5836	5895	5955	6014	6073	6132	6191	6251	6310		
39	6369	6428	6487	6546	6606	6665	6724	6783	6842	6901		
7340	6961	7020	7079	7138	7197	7256	7316	7375	7434	7493		
41	7552	7611	7671	7730	7789	7848	7907	7966	8025	8085		
42	8144	8203	8262	8321	8380	8440	8499	8558	8617	8676		
43	8735	8794	8853	8913	8972	9031	9090	9149	9208	9268	59.1	
44	9327	9386	9445	9504	9563	9622	9681	9741	9800	9859		
45	9918	9977	0036	0095	0155	0214	0273	0332	0391	0450		
46	866.0509	0568	0627	0687	0746	0805	0864	0923	0982	1041		
47	1100	1160	1219	1278	1337	1396	1455	1514	1573	1632		
48	1691	1751	1810	1869	1928	1987	2046	2105	2164	2223		
49	2282	2342	2401	2460	2519	2578	2637	2696	2755	2814		
Num.	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7350	866.2873	2932	2992	3051	3110	3169	3228	3287	3346	3405		
51	3464	3523	3582	3641	3701	3760	3819	3878	3937	3996		
52	4055	4114	4173	4232	4291	4350	4409	4468	4528	4587		
53	4646	4705	4764	4823	4882	4941	5000	5059	5118	5177		
54	5236	5295	5354	5413	5472	5532	5591	5650	5709	5768	59	
55	5827	5886	5945	6004	6063	6122	6181	6240	6299	6358		
56	6417	6476	6535	6594	6653	6712	6771	6830	6889	6949		
57	7008	7067	7126	7185	7244	7303	7362	7421	7480	7539		
58	7598	7657	7716	7775	7834	7893	7952	8011	8070	8129		
59	8188	8247	8306	8365	8424	8483	8542	8601	8660	8719		
7360	8778	8837	8896	8955	9014	9073	9132	9191	9250	9309		59
61	9368	9427	9486	9545	9604	9663	9722	9781	9840	9899	1—5	
62	9958	0017	0076	0135	0194	0253	0312	0371	0430	0489	2—12	
63	867.0548	0607	0666	0725	0784	0843	0902	0961	1020	1079	3—18	
64	1138	1197	1256	1315	1374	1433	1492	1551	1610	1669	4—24	
65	1728	1786	1845	1904	1963	2022	2081	2140	2199	2258	5—29	
66	2317	2376	2435	2494	2553	2612	2671	2730	2789	2848	6—35	
67	2907	2966	3025	3084	3142	3201	3260	3319	3378	3437	58.9	7—41
68	3496	3555	3614	3673	3732	3791	3850	3909	3968	4027	8—47	
69	4086	4144	4203	4262	4321	4380	4439	4498	4557	4616	9—53	
7370	4675	4734	4793	4852	4911	4970	5028	5087	5146	5205		
71	5264	5323	5382	5441	5500	5559	5618	5677	5735	5794		
72	5853	5912	5971	6030	6089	6148	6207	6266	6325	6383		
73	6442	6501	6560	6619	6678	6737	6796	6855	6914	6972		
74	7031	7090	7149	7208	7267	7326	7385	7444	7502	7561		
75	7620	7679	7738	7797	7856	7915	7974	8032	8091	8150		
76	8209	8268	8327	8386	8445	8503	8562	8621	8680	8739		
77	8798	8857	8916	8974	9033	9092	9151	9210	9269	9328		
78	9387	9445	9504	9563	9622	9681	9740	9799	9857	9916		
79	9975	0034	0093	0152	0211	0269	0328	0387	0446	0505		
7380	868.0564	0622	0681	0740	0799	0858	0917	0976	1034	1093	58.8	
81	1152	1211	1270	1329	1387	1446	1505	1564	1623	1682		
82	1740	1799	1858	1917	1976	2035	2093	2152	2211	2270		
83	2329	2388	2446	2505	2564	2623	2682	2740	2799	2858		
84	2917	2976	3035	3093	3152	3211	3270	3329	3387	3446		
85	3505	3564	3623	3681	3740	3799	3858	3917	3975	4034		
86	4093	4152	4211	4269	4328	4387	4446	4505	4563	4622		
87	4681	4740	4799	4857	4916	4975	5034	5093	5151	5210		
88	5269	5328	5386	5445	5504	5563	5622	5680	5739	5798		
89	5857	5915	5974	6033	6092	6151	6209	6268	6327	6386		
7390	6444	6503	6562	6621	6679	6738	6797	6856	6915	6973		
91	7032	7091	7150	7208	7267	7326	7385	7443	7502	7561		
92	7620	7678	7737	7796	7855	7913	7972	8031	8090	8148	58.7	
93	8207	8266	8325	8383	8442	8501	8560	8618	8677	8736		
94	8794	8853	8912	8971	9029	9088	9147	9206	9264	9323		
95	9382	9441	9499	9558	9617	9675	9734	9793	9852	9910		
96	9969	0028	0086	0145	0204	0263	0321	0380	0439	0497		
97	869.0556	0615	0674	0732	0791	0850	0908	0967	1026	1085		
98	1143	1202	1261	1319	1378	1437	1495	1554	1613	1672		
99	1730	1789	1848	1906	1965	2024	2082	2141	2200	2259		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 74000. L. 869.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7400	869.2317	2376	2435	2493	2552	2611	2669	2728	2787	2845		
01	2904	2963	3021	3080	3139	3197	3256	3315	3373	3432		
02	3491	3549	3608	3667	3725	3784	3843	3901	3960	4019		
03	4077	4136	4195	4253	4312	4371	4429	4488	4547	4605		
04	4664	4723	4781	4840	4899	4957	5016	5075	5133	5192		
05	5251	5309	5368	5427	5485	5544	5603	5661	5720	5778	58.6	
06	5837	5896	5954	6013	6072	6130	6189	6248	6306	6365		
07	6423	6482	6541	6599	6658	6717	6775	6834	6892	6951		
08	7010	7068	7127	7186	7244	7303	7361	7420	7479	7537		
09	7596	7655	7713	7772	7830	7889	7948	8006	8065	8123		
7410	8182	8241	8299	8358	8417	8475	8534	8592	8651	8710		
11	8768	8827	8885	8944	9003	9061	9120	9178	9237	9296		
12	9354	9413	9471	9530	9588	9647	9706	9764	9823	9881		
13	9940	9999	0057	0116	0174	0233	0291	0350	0409	0467		
14	870.0526	0584	0643	0702	0760	0819	0877	0936	0994	1053		
15	1112	1170	1229	1287	1346	1404	1463	1522	1580	1639		
16	1697	1756	1814	1873	1931	1990	2049	2107	2166	2224		
17	2283	2341	2400	2458	2517	2576	2634	2693	2751	2810		
18	2868	2927	2985	3044	3102	3161	3220	3278	3337	3395	58.5	
19	3454	3512	3571	3629	3688	3746	3805	3863	3922	3981		
7420	4039	4098	4156	4215	4273	4332	4390	4449	4507	4566	58.5	
21	4624	4683	4741	4800	4858	4917	4975	5034	5092	5151	1-16	
22	5210	5268	5327	5385	5444	5502	5561	5619	5678	5736	2-12	
23	5794	5853	5912	5970	6029	6087	6146	6204	6263	6321	3-18	
24	6380	6438	6497	6555	6614	6672	6731	6789	6848	6906	4-23	
25	6965	7023	7082	7140	7199	7257	7316	7374	7433	7491	5-29	
26	7549	7608	7666	7725	7783	7842	7900	7959	8017	8076	6-35	
27	8134	8193	8251	8310	8368	8427	8485	8544	8602	8660	7-41	
28	8719	8777	8836	8894	8953	9011	9070	9128	9187	9245	8-47	
29	9304	9362	9421	9479	9537	9596	9654	9713	9771	9830	9-53	
7430	9888	9947	0005	0063	0122	0180	0239	0297	0356	0414	58.4	
31	871.0473	0531	0589	0648	0706	0765	0823	0882	0940	0999		
32	1057	1115	1174	1232	1291	1349	1408	1466	1524	1583		
33	1641	1700	1758	1817	1875	1933	1992	2050	2109	2167		
34	2226	2284	2342	2401	2459	2518	2576	2634	2693	2751		
35	2810	2868	2927	2985	3043	3102	3160	3219	3277	3335		
36	3394	3452	3511	3569	3627	3686	3744	3803	3861	3919		
37	3978	4036	4095	4153	4211	4270	4328	4387	4445	4503		
38	4562	4620	4679	4737	4795	4854	4912	4970	5029	5087		
39	5146	5204	5262	5321	5379	5437	5496	5554	5613	5671		
7440	5729	5788	5846	5904	5963	6021	6080	6138	6196	6255		
41	6313	6371	6430	6488	6546	6605	6663	6722	6780	6838		
42	6897	6955	7013	7072	7130	7188	7247	7305	7363	7422		
43	7480	7539	7597	7655	7714	7772	7830	7889	7947	8005	58.3	
44	8064	8122	8180	8239	8297	8355	8414	8472	8530	8589		
45	8647	8705	8764	8822	8880	8939	8997	9055	9114	9172		
46	9230	9289	9347	9405	9464	9522	9580	9639	9697	9755		
47	9814	9872	9930	9988	0047	0105	0163	0222	0280	0338		
48	372.0397	0455	0513	0572	0630	0688	0747	0805	0863	0921		
49	0980	1038	1096	1155	1213	1271	1330	1388	1446	1504		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 74500. L. 872

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7450	872.1563	1621	1679	1738	1796	1854	1912	1971	2029	2087		
51	2146	2204	2262	2320	2379	2437	2495	2554	2612	2670		
52	2728	2787	2845	2903	2962	3020	3078	3136	3195	3253		
53	3311	3369	3428	3486	3544	3603	3661	3719	3777	3836		
54	3894	3952	4010	4069	4127	4185	4243	4302	4360	4418		
55	4476	4535	4593	4651	4709	4768	4826	4884	4942	5001		
56	5059	5117	5175	5234	5292	5350	5408	5467	5525	5583	58.2	
57	5641	5700	5758	5816	5874	5933	5991	6049	6107	6166		
58	6224	6282	6340	6398	6457	6515	6573	6631	6690	6748		
59	6806	6864	6923	6981	7039	7097	7155	7214	7272	7330		
7460	7388	7446	7505	7563	7621	7679	7738	7796	7854	7912		
61	7970	8029	8087	8145	8203	8261	8320	8378	8436	8494		
62	8552	8611	8669	8727	8785	8843	8902	8960	9018	9076		
63	9134	9193	9251	9309	9367	9425	9484	9542	9600	9658		
64	9716	9774	9833	9891	9949	0007	0065	0124	0182	0240		
65	873.0258	0356	0414	0473	0531	0589	0647	0705	0764	0822		
66	0880	0938	0996	1054	1113	1171	1229	1287	1345	1403		
67	1462	1520	1578	1636	1694	1752	1810	1869	1927	1985		
68	2043	2101	2159	2218	2276	2334	2392	2450	2508	2566		
69	2622	2683	2741	2799	2857	2915	2973	3032	3090	3148	58.1	
7470	3206	3264	3322	3380	3439	3497	3555	3613	3671	3729		
71	3787	3845	3904	3962	4020	4078	4136	4194	4252	4311		
72	4369	4427	4485	4543	4601	4659	4716	4775	4834	4892		
73	4950	5008	5066	5124	5182	5240	5298	5357	5415	5473		
74	5531	5589	5642	5705	5763	5821	5880	5938	5996	6054		
75	6112	6170	6228	6286	6344	6402	6461	6519	6577	6635		
76	6693	6751	6809	6867	6925	6983	7041	7100	7158	7216		
77	7274	7332	7390	7448	7506	7564	7622	7680	7738	7797		
78	7855	7913	7971	8029	8087	8145	8203	8261	8319	8377		
79	8435	8493	8551	8610	8668	8726	8784	8842	8900	8958		
7480	9016	9074	9132	9190	9248	9306	9364	9422	9480	9538		
81	9597	9655	9713	9771	9829	9887	9945	0003	0061	0119	58	
82	874.0177	0235	0293	0351	0409	0467	0525	0583	0641	0699		
83	0757	0815	0874	0932	0990	1048	1106	1164	1222	1280		
84	1338	1396	1454	1512	1570	1628	1686	1744	1802	1860		
85	1918	1976	2034	2092	2150	2208	2266	2324	2382	2440		
86	2498	2556	2614	2672	2730	2788	2846	2904	2962	3020		
87	3078	3136	3194	3252	3310	3368	3426	3484	3542	3600		
88	3658	3716	3774	3832	3890	3948	4006	4064	4122	4180		
89	4238	4296	4354	4412	4470	4528	4586	4644	4702	4760		
7490	4818	4876	4934	4992	5050	5108	5166	5224	5282	5340		58
91	5398	5456	5514	5572	5630	5688	5746	5804	5862	5920	1-6	
92	5978	6036	6094	6152	6210	6268	6325	6383	6441	6499	2-12	
93	6557	6615	6673	6731	6789	6847	6905	6963	7021	7079	3-17	
94	7137	7195	7253	7311	7369	7427	7485	7543	7601	7658	57.9	4-23
95	7716	7774	7832	7890	7948	8006	8064	8122	8180	8238	5-29	
96	8296	8354	8412	8470	8528	8585	8643	8701	8759	8817	6-35	
97	8875	8933	8991	9049	9107	9165	9223	9281	9339	9396	7-41	
98	9454	9512	9570	9628	9686	9744	9802	9860	9918	9976	8-46	
99	875.0034	0091	0149	0207	0265	0323	0381	0439	0497	0555	9-52	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 75000. L. 875.										Logarithms		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7500	875.0613	0671	0728	0786	0844	0902	0960	1018	1076	1134		58
01	1192	1250	1307	1364	1423	1481	1539	1597	1655	1713		1-6
02	1771	1828	1886	1944	2002	2060	2118	2176	2234	2292		2-12
03	2349	2407	2465	2523	2581	2639	2697	2755	2813	2870		3-17
04	2928	2986	3044	3102	3160	3218	3275	3333	3391	3449		4-23
05	3507	3565	3623	3681	3738	3796	3854	3912	3970	4028		5-29
06	4086	4143	4201	4259	4317	4375	4433	4491	4548	4606		6-35
07	4664	4722	4780	4838	4896	4953	5011	5069	5127	5185	57.8	7-41
08	5243	5300	5358	5416	5474	5532	5590	5648	5705	5763		8-46
09	5821	5879	5937	5995	6052	6110	6168	6226	6284	6342		9-52
7510	6399	6457	6515	6573	6631	6689	6746	6804	6862	6920		
11	6978	7035	7093	7151	7209	7267	7325	7382	7440	7498		
12	7556	7614	7671	7729	7787	7845	7903	7960	8018	8076		
13	8134	8192	8249	8307	8365	8423	8481	8539	8596	8654		
14	8712	8770	8828	8885	8943	9001	9059	9116	9174	9232		
15	9290	9348	9405	9463	9521	9579	9637	9694	9752	9810		
16	9868	9925	9983	0041	0099	0157	0214	0272	0330	0388		
17	876.0146	0503	0561	0619	0677	0734	0792	0850	0908	0965		
18	1023	1081	1139	1197	1254	1312	1370	1428	1485	1543		
19	1601	1659	1716	1774	1832	1890	1947	2005	2063	2121		
7520	2178	2236	2294	2352	2409	2467	2525	2583	2640	2698	57.7	
21	2756	2814	2871	2929	2987	3045	3102	3160	3218	3276		
22	3333	3391	3449	3506	3564	3622	3680	3737	3795	3853		
23	3911	3968	4026	4084	4142	4199	4257	4315	4372	4430		
24	4488	4546	4603	4661	4719	4776	4834	4892	4950	5007		
25	5065	5123	5180	5238	5296	5354	5411	5469	5527	5584		
26	5642	5700	5758	5815	5873	5931	5988	6046	6104	6161		
27	6219	6277	6335	6392	6450	6508	6565	6623	6681	6738		
28	6796	6854	6911	6969	7027	7085	7142	7200	7258	7315		
29	7373	7431	7488	7546	7604	7661	7719	7777	7834	7892		
7530	7950	8007	8065	8123	8180	8238	8296	8353	8411	8469		
31	8526	8584	8642	8699	8757	8815	8872	8930	8988	9045		
32	9103	9161	9218	9276	9334	9391	9449	9507	9564	9622		
33	9680	9737	9795	9853	9910	9968	0026	0083	0141	0199	57.6	
34	877.0256	0314	0371	0429	0487	0544	0602	0660	0717	0775		
35	0833	0890	0948	1005	1063	1121	1178	1236	1294	1351		
36	1409	1467	1524	1582	1639	1697	1755	1812	1870	1928		
37	1985	2043	2100	2158	2216	2273	2331	2388	2446	2504		
38	2561	2619	2677	2734	2792	2849	2907	2965	3022	3080		
39	3137	3195	3253	3310	3368	3425	3483	3541	3598	3656		
7540	3713	3771	3829	3886	3944	4001	4059	4117	4174	4232		
41	4289	4347	4405	4462	4520	4577	4635	4693	4750	4808		
42	4865	4923	4980	5038	5096	5153	5211	5268	5326	5384		
43	5441	5499	5556	5614	5671	5729	5787	5844	5902	5959		
44	6017	6074	6132	6189	6247	6305	6362	6420	6477	6535		
45	6592	6650	6708	6765	6821	6880	6938	6995	7053	7110		
46	7168	7226	7283	7341	7398	7456	7513	7571	7628	7686		
47	7743	7801	7859	7916	7974	8031	8089	8146	8204	8261	57.5	
48	8319	8376	8434	8491	8549	8607	8664	8722	8779	8837		
49	8894	8952	9009	9067	9124	9182	9239	9297	9354	9412		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 75500. L. 877

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
7550	877.9470	9527	9585	9642	9700	9757	9815	9872	9930	9987		57.5
51	878.0045	9102	9160	9217	9275	9332	9390	9447	9505	9562		1-6
52	0620	0677	0735	0792	0850	0907	0965	1022	1080	1137		1-11
53	1195	1252	1310	1367	1425	1482	1540	1597	1655	1712		3-17
54	1770	1827	1885	1942	2000	2057	2115	2172	2230	2287		4-23
55	2345	2402	2460	2517	2575	2632	2690	2747	2805	2862		5-29
56	2919	2977	3034	3092	3149	3207	3264	3322	3379	3437		6-34
57	3494	3552	3609	3667	3724	3782	3839	3896	3954	4011		7-40
58	4069	4126	4184	4241	4299	4356	4414	4471	4529	4586		8-46
59	4643	4701	4758	4816	4873	4931	4988	5046	5103	5161		9-52
7560	5218	5275	5333	5390	5448	5505	5563	5620	5678	5735	57.4	
61	5792	5850	5907	5965	6022	6080	6137	6194	6252	6309		
62	6367	6424	6482	6539	6596	6654	6711	6769	6826	6884		
63	6941	6998	7056	7113	7171	7228	7286	7343	7400	7458		
64	7515	7573	7630	7687	7745	7802	7860	7917	7975	8032		
65	8089	8147	8204	8262	8319	8376	8434	8491	8549	8606		
66	8663	8721	8778	8836	8893	8950	9008	9065	9123	9180		
67	9237	9295	9352	9410	9467	9524	9582	9639	9696	9754		
68	9811	9869	9926	9983	0041	0098	0156	0213	0270	0328		
69	879.0385	0442	0500	0557	0615	0672	0729	0787	0844	0901		
7570	0959	1016	1074	1131	1188	1246	1303	1360	1418	1475		
71	1532	1590	1647	1705	1762	1819	1877	1934	1991	2049		
72	2106	2163	2221	2278	2335	2393	2450	2508	2565	2622		
73	2680	2737	2794	2852	2909	2966	3024	3081	3138	3196	57.3	
74	3253	3310	3368	3425	3482	3540	3597	3654	3712	3769		
75	3826	3884	3941	3998	4056	4113	4170	4228	4285	4342		
76	4400	4457	4514	4572	4629	4686	4744	4801	4858	4916		
77	4973	5030	5088	5145	5202	5259	5317	5374	5431	5489		
78	5546	5603	5661	5718	5775	5833	5890	5947	6004	6062		
79	6119	6176	6234	6291	6348	6406	6463	6520	6577	6635		
7580	6692	6749	6807	6864	6921	6979	7036	7093	7150	7208		
81	7265	7322	7380	7437	7494	7551	7609	7666	7723	7781		
82	7838	7895	7952	8010	8067	8124	8181	8239	8296	8353		
83	8411	8468	8525	8582	8640	8697	8754	8811	8869	8926		
84	8983	9041	9098	9155	9212	9270	9327	9384	9441	9499		
85	9556	9613	9670	9728	9785	9842	9899	9957	0014	0071		
86	880.0128	0186	0243	0300	0357	0415	0472	0529	0586	0644	57.2	
87	0701	0758	0815	0873	0930	0987	1044	1102	1159	1216		
88	1273	1330	1388	1445	1502	1559	1617	1674	1731	1788		
89	1846	1903	1960	2017	2074	2132	2189	2246	2303	2361		
7590	2418	2475	2532	2589	2647	2704	2761	2818	2875	2933		57
91	2990	3047	3104	3162	3219	3276	3333	3390	3448	3505		1-6
92	3562	3619	3676	3734	3791	3848	3905	3962	4020	4077		2-11
93	4134	4191	4248	4306	4363	4420	4477	4534	4592	4649		3-17
94	4706	4763	4820	4877	4935	4992	5049	5106	5163	5221		4-23
95	5278	5335	5392	5449	5507	5564	5621	5678	5735	5792		5-28
96	5850	5907	5964	6021	6078	6135	6193	6250	6307	6364		6-34
97	6421	6478	6536	6593	6650	6707	6764	6821	6879	6936		7-40
98	6993	7050	7107	7164	7222	7279	7336	7393	7450	7507		8-46
99	7564	7622	7679	7736	7793	7850	7907	7964	8022	8079	57.1	9-51
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 76000. L 880.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7600	880.	8136	8193	8250	8307	8364	8422	8479	8536	8593	8650	57.1
01		8707	8764	8822	8879	8936	8993	9050	9107	9164	9222	
02		9279	9336	9393	9450	9507	9564	9621	9679	9736	9793	
03		9850	9907	9964	0021	0078	0136	0193	0250	0307	0364	
04	881.	0421	0478	0535	0592	0650	0707	0764	0821	0878	0935	
05		0992	1049	1106	1163	1221	1278	1335	1392	1449	1506	
06		1563	1620	1677	1735	1792	1849	1906	1963	2020	2077	
07		2134	2191	2248	2305	2363	2420	2477	2534	2591	2648	
08		2705	2762	2819	2876	2933	2990	3048	3105	3162	3219	
09		3276	3333	3390	3447	3504	3561	3618	3675	3732	3789	
7610		3847	3904	3961	4018	4075	4132	4189	4246	4303	4360	57
11		4417	4474	4531	4588	4645	4703	4760	4817	4874	4931	1—6
12		4988	5045	5102	5159	5216	5273	5330	5387	5444	5501	2—11
13		5558	5615	5672	5729	5786	5844	5901	5958	6015	6072	3—17
14		6129	6186	6243	6300	6357	6414	6471	6528	6585	6642	4—23
15		6699	6756	6813	6870	6927	6984	7041	7098	7155	7212	5—28
16		7269	7326	7383	7440	7497	7554	7611	7669	7726	7783	6—34
17		7840	7897	7954	8011	8068	8125	8182	8239	8296	8353	7—40
18		8410	8467	8524	8581	8638	8695	8752	8809	8866	8923	8—46
19		8980	9037	9094	9151	9208	9265	9322	9379	9436	9493	9—51
7620		9550	9607	9664	9721	9778	9835	9892	9949	0006	0063	
21	882.	0120	0177	0234	0291	0348	0405	0462	0519	0575	0632	
22		0689	0746	0803	0860	0917	0974	1031	1088	1145	1202	
23		1259	1316	1373	1430	1487	1544	1601	1658	1715	1772	
24		1829	1886	1943	2000	2057	2114	2171	2228	2285	2342	
25		2398	2455	2512	2569	2626	2683	2740	2797	2854	2911	
26		2968	3025	3082	3139	3196	3253	3310	3367	3424	3481	56.9
27		3537	3594	3651	3708	3765	3822	3879	3936	3993	4050	
28		4107	4164	4221	4278	4335	4392	4448	4505	4562	4619	
29		4676	4733	4790	4847	4904	4961	5018	5075	5132	5188	
7630		5245	5302	5359	5416	5473	5530	5587	5644	5701	5758	
31		5815	5871	5928	5985	6042	6099	6156	6213	6270	6327	
32		6384	6441	6497	6554	6611	6668	6725	6782	6839	6896	
33		6953	7010	7066	7123	7180	7237	7294	7351	7408	7465	
34		7522	7578	7635	7692	7749	7806	7863	7920	7977	8034	
35		8090	8147	8204	8261	8318	8375	8432	8489	8545	8602	
36		8659	8716	8773	8830	8887	8944	9000	9057	9114	9171	
37		9228	9285	9342	9399	9455	9512	9569	9626	9683	9740	
38		9797	9853	9910	9967	0024	0081	0138	0195	0251	0308	
39	883.	0365	0422	0479	0536	0593	0649	0706	0763	0820	0877	56.8
7640		0934	0990	1047	1104	1161	1218	1275	1331	1388	1445	
41		1502	1559	1616	1673	1729	1786	1843	1900	1957	2014	
42		2070	2127	2184	2241	2298	2354	2411	2468	2525	2582	
43		2639	2695	2752	2809	2866	2923	2980	3036	3093	3150	
44		3207	3264	3320	3377	3434	3491	3548	3604	3661	3718	
45		3775	3832	3889	3945	4002	4059	4116	4173	4229	4286	
46		4343	4400	4457	4513	4570	4627	4684	4741	4797	4854	
47		4911	4968	5024	5081	5138	5195	5252	5308	5365	5422	
48		5479	5536	5592	5649	5706	5763	5819	5876	5933	5990	
49		6047	6103	6160	6217	6274	6330	6387	6444	6501	6558	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 76500. L. 883

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7650	883	6614	6671	6728	6785	6841	6898	6955	7012	7068	7125	
51		7182	7239	7296	7352	7409	7466	7523	7579	7636	7693	
52		7750	7806	7863	7920	7977	8033	8090	8147	8204	8260	
53		8317	8374	8431	8487	8544	8601	8658	8714	8771	8828	56.7
54		8885	8941	8998	9055	9112	9168	9225	9282	9338	9395	
55		9452	9509	9565	9622	9679	9736	9792	9849	9906	9963	
56	884	0019	0076	0133	0189	0246	0303	0360	0416	0473	0530	
57		0586	0643	0700	0757	0813	0870	0927	0983	1040	1097	
58		1154	1210	1267	1324	1380	1437	1494	1551	1607	1664	
59		1721	1777	1834	1891	1948	2004	2061	2118	2174	2231	
7660		2288	2344	2401	2458	2514	2571	2628	2685	2741	2798	
61		2855	2911	2968	3025	3081	3138	3195	3251	3308	3365	
62		3421	3478	3535	3592	3648	3705	3762	3818	3875	3932	
63		3988	4045	4102	4158	4215	4272	4328	4385	4442	4498	
64		4555	4612	4668	4725	4782	4838	4895	4952	5008	5065	
65		5122	5178	5235	5292	5348	5405	5462	5518	5575	5631	56.6
66		5688	5745	5801	5858	5915	5971	6028	6085	6141	6198	
67		6255	6311	6368	6425	6481	6538	6594	6651	6708	6764	
68		6821	6878	6934	6991	7048	7104	7161	7217	7274	7331	
69		7387	7444	7501	7557	7614	7671	7727	7784	7840	7897	
7670		7954	8010	8067	8124	8180	8237	8293	8350	8407	8463	
71		8520	8576	8633	8690	8746	8803	8860	8916	8973	9029	
72		9086	9143	9199	9256	9312	9369	9426	9482	9539	9595	
73		9652	9709	9765	9822	9878	9935	9992	0048	0105	0161	
74	885	0218	0275	0331	0388	0444	0501	0557	0614	0671	0727	
75		0784	0840	0897	0954	1010	1067	1123	1180	1237	1293	
76		1350	1406	1463	1519	1576	1633	1689	1746	1802	1859	
77		1915	1972	2029	2085	2142	2198	2255	2311	2368	2425	
78		2481	2538	2594	2651	2707	2764	2820	2877	2934	2990	
79		3047	3103	3160	3216	3273	3329	3386	3443	3499	3556	
7680		3612	3669	3725	3782	3838	3895	3951	4008	4065	4121	56.5
81		4178	4234	4291	4347	4404	4460	4517	4573	4630	4686	
82		4743	4800	4856	4913	4969	5026	5082	5139	5195	5252	
83		5308	5365	5421	5478	5534	5591	5647	5704	5761	5817	
84		5874	5930	5987	6043	6100	6156	6213	6269	6326	6382	
85		6439	6495	6552	6608	6665	6721	6778	6834	6891	6947	
86		7004	7060	7117	7173	7230	7286	7343	7399	7456	7512	
87		7569	7625	7682	7738	7795	7851	7908	7964	8021	8077	
88		8134	8190	8247	8303	8360	8416	8473	8529	8586	8642	
89		8699	8755	8812	8868	8925	8981	9037	9094	9150	9207	
7690		9263	9320	9376	9433	9489	9546	9602	9659	9715	9772	56.5
91		9828	9885	9941	9998	0054	0110	0167	0223	0280	0336	1—6
92	886	0393	0449	0506	0562	0619	0675	0732	0788	0844	0901	2—11
93		0957	1014	1070	1127	1183	1240	1296	1352	1409	1465	3—17
94		1522	1578	1635	1691	1748	1804	1860	1917	1973	2030	4—23
95		2086	2143	2199	2256	2312	2368	2425	2481	2538	2594	5—28
96		2651	2707	2763	2820	2876	2933	2989	3046	3102	3158	6—34
97		3215	3271	3328	3384	3441	3497	3553	3610	3666	3723	7—40
98		3779	3835	3892	3948	4005	4061	4118	4174	4230	4287	8—45
99		4343	4400	4456	4512	4569	4625	4682	4738	4794	4851	9—51
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 77000. L. 886

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7700	886.4907	4964	5020	5076	5133	5189	5246	5302	5358	5415		56.5
01	5471	5528	5584	5640	5697	5753	5810	5866	5922	5979		1—6
02	6035	6092	6148	6204	6261	6317	6373	6430	6486	6543		2—18
03	6599	6655	6712	6768	6824	6881	6937	6994	7050	7106		3—17
04	7163	7219	7275	7332	7388	7445	7501	7557	7614	7670		4—23
05	7726	7783	7839	7896	7952	8008	8065	8121	8177	8234		5—28
06	8290	8346	8403	8459	8515	8572	8628	8685	8741	8797		6—34
07	8854	8910	8966	9023	9079	9135	9192	9248	9304	9361	56.3	7—40
08	9417	9473	9530	9586	9642	9699	9755	9811	9868	9924		8—45
09	9980	0037	0093	0149	0206	0262	0318	0375	0431	0487		9—51
7710	887.0544	0600	0656	0713	0769	0825	0882	0938	0994	1051		
11	1107	1163	1220	1276	1332	1389	1445	1501	1558	1614		
12	1670	1727	1783	1839	1895	1952	2008	2064	2121	2177		
13	2233	2290	2346	2402	2459	2515	2571	2627	2684	2740		
14	2796	2853	2909	2965	3022	3078	3134	3190	3247	3303		
15	3359	3416	3472	3528	3584	3641	3697	3753	3810	3866		
16	3922	3978	4035	4091	4147	4204	4260	4316	4372	4429		
17	4485	4541	4598	4654	4710	4766	4823	4879	4935	4991		
18	5048	5104	5160	5217	5273	5329	5385	5442	5498	5554		
19	5610	5667	5723	5779	5835	5892	5948	6004	6060	6117		
7720	6173	6229	6286	6342	6398	6454	6511	6567	6623	6679		
21	6736	6792	6848	6904	6961	7017	7073	7129	7185	7242	56.2	
22	7298	7354	7410	7467	7523	7579	7635	7692	7748	7804		
23	7860	7917	7973	8029	8085	8142	8198	8254	8310	8366		
24	8423	8479	8535	8591	8648	8704	8760	8816	8872	8929		
25	8985	9041	9097	9154	9210	9266	9322	9378	9435	9491		
26	9547	9603	9659	9716	9772	9828	9884	9941	9997	0053		
27	888.0109	0165	0222	0278	0334	0390	0446	0503	0559	0615		
28	0671	0727	0784	0840	0896	0952	1008	1064	1121	1177		
29	1233	1289	1345	1402	1458	1514	1570	1626	1683	1739		
7730	1795	1851	1907	1963	2020	2076	2132	2188	2244	2301		
31	2357	2413	2469	2525	2581	2638	2694	2750	2806	2862		
32	2918	2975	3031	3087	3143	3199	3255	3312	3368	3424		
33	3480	3536	3592	3649	3705	3761	3817	3873	3929	3986		
34	4042	4098	4154	4210	4266	4322	4379	4435	4491	4547		
35	4603	4659	4715	4772	4828	4884	4940	4996	5052	5108	56.1	
36	5165	5221	5277	5333	5389	5445	5501	5558	5614	5670		
37	5726	5782	5838	5894	5950	6007	6063	6119	6175	6231		
38	6287	6343	6400	6456	6512	6568	6624	6680	6736	6792		
39	6848	6905	6961	7017	7073	7129	7185	7241	7297	7353		
7740	7410	7466	7522	7578	7634	7690	7746	7802	7858	7915		
41	7971	8027	8083	8139	8195	8251	8307	8363	8419	8476		
42	8532	8588	8644	8700	8756	8812	8868	8924	8980	9037		
43	9093	9149	9205	9261	9317	9373	9429	9485	9541	9597		
44	9653	9710	9766	9822	9878	9934	9990	0046	0102	0158		
45	889.0214	0270	0326	0382	0439	0495	0551	0607	0663	0719		
46	0775	0831	0887	0943	0999	1055	1111	1167	1223	1279		
47	1286	1342	1398	1454	1510	1566	1622	1678	1734	1790		
48	1896	1952	2008	2064	2120	2176	2232	2288	2345	2401	56	
49	2457	2513	2569	2625	2681	2737	2793	2849	2905	2961		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 77500. L. 889

Nam	0	1	2	3	4	5	6	7	8	9	D	Pts.
7750	889	3017	3073	3129	3185	3241	3297	3353	3409	3465	3521	56
51		3577	3633	3689	3745	3801	3858	3914	3970	4026	4082	1-6
52		4138	4194	4250	4306	4362	4418	4474	4530	4586	4642	2-11
53		4698	4754	4810	4866	4922	4978	5034	5090	5146	5202	3-17
54		5258	5314	5370	5426	5482	5538	5594	5650	5706	5762	4-22
55		5818	5874	5930	5986	6042	6098	6154	6210	6266	6322	5-28
56		6378	6434	6490	6546	6602	6658	6714	6770	6826	6882	6-34
57		6938	6994	7050	7106	7162	7218	7274	7330	7386	7442	7-39
58		7498	7554	7610	7666	7722	7778	7834	7890	7946	8002	8-45
59		8058	8113	8169	8225	8281	8337	8393	8449	8505	8561	9-50
7760		8617	8673	8729	8785	8841	8897	8953	9009	9065	9121	
61		9177	9233	9289	9345	9401	9457	9513	9569	9624	9680	
62		9736	9792	9848	9904	9960	0016	0072	0128	0184	0240	55.9
63	890	0296	0352	0408	0464	0520	0576	0632	0687	0743	0799	
64		0855	0911	0967	1023	1079	1135	1191	1247	1303	1359	
65		1415	1471	1526	1582	1638	1694	1750	1806	1862	1918	
66		1974	2030	2086	2142	2198	2253	2309	2365	2421	2477	
67		2533	2589	2645	2701	2757	2813	2869	2924	2980	3036	
68		3092	3148	3204	3260	3316	3372	3428	3484	3539	3595	
69		3651	3707	3763	3819	3875	3931	3987	4043	4098	4154	
7770		4210	4266	4322	4378	4434	4490	4546	4601	4657	4713	
71		4769	4825	4881	4937	4993	5049	5104	5160	5216	5272	
72		5328	5384	5440	5496	5551	5607	5663	5719	5775	5831	
73		5887	5943	5998	6054	6110	6166	6222	6278	6334	6389	
74		6445	6501	6557	6613	6669	6725	6781	6836	6892	6948	
75		7004	7060	7116	7172	7227	7283	7339	7395	7451	7507	
76		7563	7618	7674	7730	7786	7842	7898	7953	8009	8065	55.8
77		8121	8177	8233	8289	8344	8400	8456	8512	8568	8624	
78		8679	8735	8791	8847	8903	8959	9014	9070	9126	9182	
79		9238	9294	9349	9405	9461	9517	9573	9629	9684	9740	
7780		9796	9852	9908	9963	0019	0075	0131	0187	0243	0298	
81	891	0354	0410	0466	0522	0577	0633	0689	0745	0801	0856	
82		0912	0968	1024	1080	1135	1191	1247	1303	1359	1415	
83		1470	1526	1582	1638	1693	1749	1805	1861	1917	1972	
84		2028	2084	2140	2196	2251	2307	2363	2419	2475	2530	
85		2586	2642	2698	2754	2809	2865	2921	2977	3032	3088	
86		3144	3200	3256	3311	3367	3423	3479	3534	3590	3646	
87		3702	3758	3813	3869	3925	3981	4036	4092	4148	4204	
88		4259	4315	4371	4427	4482	4538	4594	4650	4706	4761	
89		4817	4873	4929	4984	5040	5096	5152	5207	5263	5319	
7790		5375	5430	5486	5542	5598	5653	5709	5765	5821	5876	55.7
91		5932	5988	6044	6099	6155	6211	6266	6322	6378	6434	1-6
92		6489	6545	6601	6657	6712	6768	6824	6880	6935	6991	2-11
93		7047	7102	7158	7214	7270	7325	7381	7437	7493	7548	3-17
94		7604	7660	7715	7771	7827	7883	7938	7994	8050	8105	4-22
95		8161	8217	8273	8328	8384	8440	8495	8551	8607	8663	5-28
96		8718	8774	8830	8885	8941	8997	9053	9108	9164	9220	6-33
97		9275	9331	9387	9442	9498	9554	9610	9665	9721	9777	7-39
98		9832	9888	9944	9999	0055	0111	0166	0222	0278	0334	8-44
99	892	0389	0445	0501	0556	0612	0668	0723	0779	0835	0890	9-50
Nam	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 78000. L. 892.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7800	892.0946	1002	1057	1113	1169	1224	1280	1336	1391	1447		
01	1503	1558	1614	1670	1725	1781	1837	1892	1948	2004		
02	2059	2115	2171	2226	2282	2338	2393	2449	2505	2560		
03	2616	2672	2727	2783	2839	2894	2950	3006	3061	3117		
04	3173	3228	3284	3340	3395	3451	3506	3562	3618	3673	55.6	
05	3729	3785	3840	3896	3952	4007	4063	4119	4174	4230		
06	4285	4341	4397	4452	4508	4564	4619	4675	4731	4786		
07	4842	4897	4953	5009	5064	5120	5176	5231	5287	5342		
08	5398	5454	5509	5565	5621	5676	5732	5787	5843	5899		
09	5954	6010	6065	6121	6177	6232	6288	6344	6399	6455		
7810	6510	6566	6622	6677	6733	6788	6844	6900	6955	7011		
11	7066	7122	7178	7233	7289	7344	7400	7456	7511	7567		
12	7622	7678	7734	7789	7845	7900	7956	8011	8067	8123		
13	8178	8234	8289	8345	8401	8456	8512	8567	8623	8678		
14	8734	8790	8845	8901	8956	9012	9068	9123	9179	9234		
15	9290	9345	9401	9457	9512	9568	9623	9679	9734	9790		
16	9846	9901	9957	0012	0068	0123	0179	0234	0290	0346		
17	893.0401	0457	0512	0568	0623	0679	0734	0790	0846	0901		
18	0957	1012	1068	1123	1179	1234	1290	1345	1401	1457	55.5	
19	1512	1568	1623	1679	1734	1790	1845	1901	1956	2012		
7820	2068	2123	2179	2234	2290	2345	2401	2456	2512	2567	55.5	
21	2623	2678	2734	2789	2845	2900	2956	3012	3067	3123	1—5	
22	3178	3234	3289	3345	3400	3456	3511	3567	3622	3678	2—11	
23	3733	3789	3844	3900	3955	4011	4066	4122	4177	4233	3—17	
24	4288	4344	4399	4455	4510	4566	4621	4677	4732	4788	4—22	
25	4843	4899	4954	5010	5065	5121	5176	5232	5287	5343	5—28	
26	5398	5454	5509	5565	5620	5676	5731	5787	5842	5898	6—33	
27	5953	6009	6064	6120	6175	6231	6286	6342	6397	6453	7—39	
28	6508	6564	6619	6675	6730	6786	6841	6897	6952	7007	8—44	
29	7063	7118	7174	7229	7285	7340	7396	7451	7507	7562	9—50	
7830	7618	7673	7729	7784	7839	7895	7950	8006	8061	8117		
31	8172	8228	8283	8339	8394	8450	8505	8560	8616	8671		
32	8727	8782	8838	8893	8949	9004	9059	9115	9170	9226	55.4	
33	9281	9337	9392	9448	9503	9558	9614	9669	9725	9780		
34	9836	9891	9947	0002	0057	0113	0168	0224	0279	0335		
35	894.0390	0445	0501	0556	0612	0667	0723	0778	0833	0889		
36	0944	1000	1055	1111	1166	1221	1277	1332	1388	1443		
37	1498	1554	1609	1665	1720	1776	1831	1886	1942	1997		
38	2053	2108	2163	2219	2274	2330	2385	2440	2496	2551		
39	2607	2662	2717	2773	2828	2884	2939	2994	3050	3105		
7840	3161	3216	3271	3327	3382	3438	3493	3548	3604	3659		
41	3715	3770	3825	3881	3936	3991	4047	4102	4158	4213		
42	4268	4324	4379	4435	4490	4545	4601	4656	4711	4767		
43	4822	4878	4933	4988	5044	5099	5154	5210	5265	5320		
44	5376	5431	5487	5542	5597	5653	5708	5763	5819	5874		
45	5929	5985	6040	6096	6151	6206	6262	6317	6372	6428		
46	6483	6538	6594	6649	6704	6760	6815	6870	6926	6981	55.3	
47	7037	7092	7147	7203	7258	7313	7369	7424	7479	7535		
48	7590	7645	7701	7756	7811	7867	7922	7977	8033	8088		
49	8143	8199	8254	8309	8365	8420	8475	8531	8586	8641		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 78500. L 89

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7850	894	8697	8752	8807	8863	8918	8973	9028	9084	9139	9194	
51		9250	9305	9360	9416	9471	9526	9582	9637	9692	9748	
52		9803	9858	9914	9969	10024	10079	10135	10190	10245	10301	
53	895	0356	0411	0467	0522	0577	0632	0688	0743	0798	0854	
54		0909	0964	1020	1075	1130	1185	1241	1296	1351	1407	
55		1462	1517	1572	1628	1683	1738	1794	1849	1904	1959	
56		2015	2070	2125	2181	2236	2291	2346	2402	2457	2512	
57		2568	2623	2678	2733	2789	2844	2899	2954	3010	3065	
58		3120	3176	3231	3286	3341	3397	3452	3507	3562	3618	
59		3673	3728	3783	3839	3894	3949	4004	4060	4115	4170	
7860		4225	4281	4336	4391	4446	4502	4557	4612	4667	4723	
61		4778	4833	4888	4944	4999	5054	5109	5165	5220	5275	55.2
62		5330	5386	5441	5496	5551	5607	5662	5717	5772	5828	
63		5883	5938	5993	6048	6104	6159	6214	6269	6325	6380	
64		6435	6490	6545	6601	6656	6711	6766	6822	6877	6932	
65		6987	7042	7098	7153	7208	7263	7319	7374	7429	7484	
66		7539	7595	7650	7705	7760	7815	7871	7926	7981	8036	
67		8092	8147	8202	8257	8312	8368	8423	8478	8533	8588	
68		8644	8699	8754	8809	8864	8919	8975	9030	9085	9140	
69		9195	9251	9306	9361	9416	9471	9527	9582	9637	9692	
7870		9748	9803	9858	9913	9968	10023	10078	10134	10189	10244	
71	896	0299	0354	0409	0465	0520	0575	0630	0685	0741	0796	
72		0851	0906	0961	1016	1072	1127	1182	1237	1292	1347	
73		1403	1458	1513	1568	1623	1678	1733	1789	1844	1899	
74		1954	2009	2064	2120	2175	2230	2285	2340	2395	2450	
75		2506	2561	2616	2671	2726	2781	2836	2892	2947	3002	55.1
76		3057	3112	3167	3222	3278	3333	3388	3443	3498	3553	
77		3608	3664	3719	3774	3829	3884	3939	3994	4050	4105	
78		4160	4215	4270	4325	4380	4435	4491	4546	4601	4656	
79		4711	4766	4821	4876	4931	4987	5042	5097	5152	5207	
7880		5262	5317	5372	5428	5483	5538	5593	5648	5703	5758	
81		5813	5868	5923	5979	6034	6089	6144	6199	6254	6309	
82		6364	6419	6475	6530	6585	6640	6695	6750	6805	6860	
83		6915	6970	7025	7081	7136	7191	7246	7301	7356	7411	
84		7456	7521	7576	7631	7686	7742	7797	7852	7907	7962	
85		8017	8072	8127	8182	8237	8292	8347	8403	8458	8513	
86		8568	8623	8678	8733	8788	8843	8898	8953	9008	9063	
87		9118	9173	9229	9284	9339	9394	9449	9504	9559	9614	
88		9669	9724	9779	9834	9889	9944	9999	10054	10109	0165	
89	897	0220	0275	0330	0385	0440	0495	0550	0605	0660	0715	55
7890		0770	0825	0880	0935	0990	1045	1100	1155	1210	1265	55
91		1320	1375	1431	1486	1541	1596	1651	1706	1761	1816	1—5
92		1871	1926	1981	2036	2091	2146	2201	2256	2311	2366	2—11
93		2421	2476	2531	2586	2641	2696	2751	2806	2861	2916	3—16
94		2971	3026	3081	3136	3191	3246	3301	3356	3411	3466	4—22
95		3521	3576	3631	3686	3741	3796	3851	3906	3961	4016	5—27
96		4071	4126	4181	4236	4291	4346	4401	4456	4511	4566	6—33
97		4621	4676	4731	4786	4841	4896	4951	5006	5061	5116	7—38
98		5171	5226	5281	5336	5391	5446	5501	5556	5611	5666	8—44
99		5721	5776	5831	5886	5941	5996	6051	6106	6161	6216	9—49
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 79000. L. 897						Logarithms.						
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7900	897.6271	6326	6381	6436	6491	6546	6602	6656	6711	6766		55
01	6821	6876	6931	6986	7040	7095	7150	7205	7260	7315		1—5
02	7370	7425	7480	7535	7590	7645	7700	7755	7810	7865		2—11
03	7920	7975	8030	8085	8140	8195	8250	8304	8359	8414	54.9	3—16
04	8469	8524	8579	8634	8689	8744	8799	8854	8909	8964		4—22
05	9019	9074	9129	9184	9238	9293	9348	9403	9458	9513		5—27
06	9568	9623	9678	9733	9788	9843	9898	9953	0008	0062		6—33
07	898.0117	0172	0227	0282	0337	0392	0447	0502	0557	0612		7—38
08	0667	0722	0776	0831	0886	0941	0996	1051	1106	1161		8—44
09	1216	1271	1326	1380	1435	1490	1545	1600	1655	1710		9—49
7910	1765	1820	1875	1930	1984	2039	2094	2149	2204	2259		
11	2314	2369	2424	2479	2533	2588	2643	2698	2753	2808		
12	2863	2918	2973	3027	3082	3137	3192	3247	3302	3357		
13	3412	3467	3521	3576	3631	3686	3741	3796	3851	3906		
14	3960	4015	4070	4125	4180	4235	4290	4345	4399	4454		
15	4509	4564	4619	4674	4729	4784	4838	4893	4948	5003		
16	5058	5113	5168	5222	5277	5332	5387	5442	5497	5552		
17	5606	5661	5716	5771	5826	5881	5936	5990	6045	6100		
18	6155	6210	6265	6320	6374	6429	6484	6539	6594	6649	54.3	
19	6703	6758	6813	6868	6923	6978	7032	7087	7142	7197		
7920	7252	7307	7361	7416	7471	7526	7581	7636	7690	7745		
21	7800	7855	7910	7965	8019	8074	8129	8184	8239	8294		
22	8348	8403	8458	8513	8568	8622	8677	8732	8787	8842		
23	8897	8951	9006	9061	9116	9171	9225	9280	9335	9390		
24	9445	9499	9554	9609	9664	9719	9774	9828	9883	9938		
25	9993	0048	0102	0157	0212	0267	0321	0376	0431	0486		
26	899.0541	0595	0650	0705	0760	0815	0869	0924	0979	1034		
27	1089	1143	1198	1253	1308	1363	1417	1472	1527	1582		
28	1636	1691	1746	1801	1856	1910	1965	2020	2075	2129		
29	2184	2239	2294	2348	2403	2458	2513	2568	2622	2677		
7930	2732	2787	2841	2896	2951	3006	3060	3115	3170	3225		
31	3279	3334	3389	3444	3499	3553	3608	3663	3718	3772		
32	3827	3882	3937	3991	4046	4101	4156	4211	4265	4320	54.7	
33	4375	4429	4484	4539	4594	4648	4703	4758	4812	4867		
34	4922	4977	5031	5086	5141	5196	5250	5305	5360	5415		
35	5469	5524	5579	5634	5688	5743	5798	5852	5907	5962		
36	6017	6071	6126	6181	6235	6290	6345	6400	6454	6509		
37	6564	6619	6673	6728	6783	6837	6892	6947	7002	7056		
38	7111	7166	7220	7275	7330	7384	7439	7494	7549	7603		
39	7658	7713	7767	7822	7877	7931	7986	8041	8096	8150		
7940	8205	8260	8314	8369	8424	8478	8533	8588	8643	8697		
41	8752	8807	8861	8916	8971	9025	9080	9135	9189	9244		
42	9299	9354	9408	9463	9518	9572	9627	9682	9736	9791		
43	9846	9900	9955	0010	0064	0119	0174	0228	0283	0338		
44	900.0392	0447	0502	0556	0611	0666	0720	0775	0830	0884		
45	0939	0994	1048	1103	1158	1212	1267	1322	1376	1431		
46	1486	1540	1595	1650	1704	1759	1814	1868	1923	1977		
47	2032	2087	2141	2196	2251	2305	2360	2415	2469	2524		
48	2579	2633	2688	2743	2797	2852	2906	2961	3016	3070	54.6	
49	3125	3180	3234	3289	3344	3398	3453	3507	3562	3617		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 79500. L. 900

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7950	900.	3671	3726	3781	3835	3890	3944	3999	4054	4108	4163	
51		4218	4272	4327	4381	4436	4491	4545	4600	4654	4709	
52		4764	4818	4873	4928	4982	5037	5091	5146	5201	5255	
53		5310	5364	5419	5474	5528	5583	5627	5692	5747	5801	
54		5856	5910	5965	6020	6074	6129	6183	6238	6293	6347	
55		6402	6456	6511	6566	6620	6675	6729	6784	6839	6893	
56		6948	7002	7057	7112	7166	7221	7275	7330	7384	7439	
57		7494	7548	7603	7657	7712	7766	7821	7876	7930	7985	
58		8039	8094	8148	8203	8258	8312	8367	8421	8476	8530	
59		8585	8640	8694	8749	8803	8858	8912	8967	9022	9076	
7960		9131	9185	9240	9294	9349	9403	9458	9512	9567	9622	
61		9676	9731	9785	9840	9894	9949	0004	0058	0113	0167	54.5
62	901.	0222	0276	0331	0385	0440	0494	0549	0604	0658	0713	
63		0767	0822	0876	0931	0985	1040	1094	1149	1203	1258	
64		1313	1367	1422	1476	1531	1585	1640	1694	1747	1803	
65		1858	1912	1967	2021	2076	2130	2185	2239	2294	2349	
66		2403	2458	2512	2567	2621	2676	2730	2785	2839	2894	
67		2948	3003	3057	3112	3166	3221	3275	3330	3384	3439	
68		3493	3548	3602	3657	3711	3766	3820	3875	3929	3984	
69		4038	4093	4147	4202	4256	4311	4365	4420	4474	4529	
7970		4583	4638	4692	4747	4801	4856	4910	4965	5019	5074	54.5
71		5128	5183	5237	5292	5346	5401	5455	5509	5564	5618	1-5
72		5673	5727	5782	5836	5891	5945	6000	6054	6109	6163	2-11
73		6218	6272	6327	6381	6436	6490	6544	6599	6653	6708	3-16
74		6762	6817	6871	6926	6980	7035	7089	7144	7198	7252	4-22
75		7307	7361	7416	7470	7525	7579	7634	7688	7743	7797	5-27
76		7851	7906	7960	8015	8069	8124	8178	8233	8287	8341	54.4
77		8396	8450	8505	8559	8614	8668	8723	8777	8831	8886	6-33
78		8940	8995	9049	9104	9158	9212	9267	9321	9376	9430	7-38
79		9485	9539	9594	9648	9702	9757	9811	9866	9920	9974	8-44
7980	902.	0029	0083	0138	0192	0247	0301	0355	0410	0464	0519	9-49
81		0573	0628	0682	0736	0791	0845	0900	0954	1008	1063	
82		1117	1172	1226	1280	1335	1389	1444	1498	1552	1607	
83		1661	1716	1770	1824	1879	1933	1988	2042	2096	2151	
84		2205	2260	2314	2368	2423	2477	2532	2586	2640	2695	
85		2749	2804	2858	2912	2967	3021	3076	3130	3184	3239	
86		3293	3347	3402	3456	3511	3565	3619	3674	3728	3782	
87		3837	3891	3946	4000	4054	4109	4163	4217	4272	4326	
88		4381	4435	4489	4544	4598	4652	4707	4761	4815	4870	
89		4924	4979	5033	5087	5142	5196	5250	5305	5359	5413	
7990		5468	5522	5577	5631	5685	5740	5794	5848	5903	5957	
91		6011	6066	6120	6174	6229	6283	6337	6392	6446	6500	54.3
92		6555	6609	6663	6718	6772	6826	6881	6935	6989	7044	
93		7098	7152	7207	7261	7315	7370	7424	7478	7533	7587	
94		7641	7696	7750	7804	7859	7913	7967	8022	8076	8130	
95		8185	8239	8293	8348	8402	8456	8511	8565	8619	8674	
96		8728	8782	8836	8891	8945	8999	9054	9108	9162	9217	
97		9271	9325	9380	9434	9488	9542	9597	9651	9705	9760	
98		9814	9868	9923	9977	0031	0085	0140	0194	0248	0303	
99	903.	0357	0411	0466	0520	0574	0628	0683	0737	0791	0846	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.80000. L.903.

Logarithms.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8000	0900	0954	1008	1062	1117	1171	1226	1280	1334	1388		
01	1443	1497	1551	1606	1660	1714	1768	1823	1877	1931		
02	1985	2040	2094	2148	2203	2257	2311	2365	2420	2474		
03	2528	2582	2637	2691	2745	2799	2854	2908	2962	3017		
04	3071	3125	3179	3234	3288	3342	3396	3451	3505	3559		
05	3613	3668	3722	3776	3830	3885	3939	3993	4047	4102		
06	4156	4210	4264	4318	4373	4427	4481	4536	4590	4644	54.2	
07	4698	4753	4807	4861	4915	4969	5024	5078	5132	5186		
08	5241	5295	5349	5403	5458	5512	5566	5620	5674	5729		
09	5783	5837	5891	5945	6000	6054	6108	6163	6217	6271		
8010	6325	6379	6434	6488	6542	6596	6650	6705	6759	6813		
11	6867	6922	6976	7030	7084	7138	7193	7247	7301	7355		
12	7409	7464	7518	7572	7626	7680	7735	7789	7843	7897		
13	7951	8006	8060	8114	8168	8222	8277	8331	8385	8439		
14	8493	8548	8602	8656	8710	8764	8819	8873	8927	8981		
15	9035	9089	9144	9198	9252	9306	9360	9415	9469	9523		
16	9577	9631	9685	9740	9794	9848	9902	9956	10010	10065		
17	904. 0119	0173	0227	0281	0336	0390	0444	0498	0552	0606		
18	0661	0715	0769	0823	0877	0931	0985	1040	1094	1148		
19	1202	1256	1310	1365	1419	1473	1527	1581	1635	1690		
8020	1744	1798	1852	1906	1960	2014	2069	2123	2177	2231	54.1	
21	2285	2339	2393	2448	2502	2556	2610	2664	2718	2772		
22	2827	2881	2935	2989	3043	3097	3151	3206	3260	3314		
23	3368	3422	3476	3530	3584	3639	3693	3747	3801	3855		
24	3909	3963	4017	4072	4126	4180	4234	4288	4342	4396		
25	4450	4505	4559	4613	4667	4721	4775	4829	4883	4937		
26	4992	5046	5100	5154	5208	5262	5316	5370	5424	5479		
27	5533	5587	5641	5695	5749	5803	5857	5911	5965	6020		
28	6074	6128	6182	6236	6290	6344	6398	6452	6506	6560		
29	6615	6669	6723	6777	6831	6885	6939	6993	7047	7101		
3030	7155	7210	7264	7318	7372	7426	7480	7534	7588	7642		
31	7696	7750	7804	7858	7913	7967	8021	8075	8129	8183		
32	8237	8291	8345	8399	8453	8507	8561	8615	8670	8724		
33	8778	8832	8886	8940	8994	9048	9102	9156	9210	9264		
34	9318	9372	9426	9480	9534	9589	9643	9697	9751	9805		
35	9859	9913	9967	10021	10075	10129	10183	10237	10291	10345	54	
36	905. 0399	0453	0507	0561	0615	0669	0724	0778	0831	0886		
37	0940	0994	1048	1102	1156	1210	1264	1318	1372	1426		
38	1480	1534	1588	1642	1696	1750	1804	1858	1912	1966		
39	2020	2074	2128	2182	2236	2290	2344	2398	2452	2506		
8040	2560	2615	2669	2723	2777	2831	2885	2939	2993	3047	54	
41	3101	3155	3209	3263	3317	3371	3425	3479	3533	3587	1-5	
42	3641	3695	3749	3803	3857	3911	3965	4019	4073	4127	2-11	
43	4181	4235	4289	4343	4397	4451	4505	4559	4613	4667	3-16	
44	4721	4775	4829	4883	4937	4991	5045	5099	5153	5207	4-22	
45	5260	5314	5368	5422	5476	5530	5584	5638	5692	5746	5-27	
46	5800	5854	5908	5962	6016	6070	6124	6178	6232	6286	6-32	
47	6340	6394	6448	6502	6556	6610	6664	6718	6772	6826	7-38	
48	6880	6934	6988	7042	7096	7149	7203	7257	7311	7365	8-43	
49	7419	7473	7527	7581	7635	7689	7743	7797	7851	7905	9-49	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 80500. L. 905

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
8050	205	7959	8013	8067	8121	8175	8229	8283	8336	8390	8444	53.9
51	8498	8552	8606	8660	8714	8768	8822	8876	8930	8984		
52	9038	9092	9146	9199	9253	9307	9361	9415	9469	9523		
53	9577	9631	9685	9739	9793	9847	9901	9954	0008	0062		
54	906.01	160170	0224	0278	0332	0386	0440	0494	0548	0601		
55	0655	0709	0763	0817	0871	0925	0979	1033	1087	1141		
56	1195	1248	1302	1356	1410	1464	1518	1572	1626	1680		
57	1734	1788	1841	1895	1949	2003	2057	2111	2165	2219		
58	2273	2327	2380	2434	2488	2542	2596	2650	2704	2758		
59	2812	2865	2919	2973	3027	3081	3135	3189	3243	3297		
8060	3350	3404	3458	3512	3566	3620	3674	3728	3781	3835		
61	3889	3943	3997	4051	4105	4159	4212	4266	4320	4374		
62	4428	4482	4536	4590	4643	4697	4751	4805	4859	4913		
63	4967	5020	5074	5128	5182	5236	5290	5344	5397	5451		
64	5505	5559	5613	5667	5721	5774	5828	5882	5936	5990		
65	6044	6098	6151	6205	6259	6313	6367	6421	6474	6528	53.8	
66	6581	6636	6690	6744	6798	6851	6905	6959	7013	7067		
67	7121	7174	7228	7282	7336	7390	7444	7497	7551	7605		
68	7659	7713	7767	7820	7874	7928	7982	8036	8090	8143		
69	8197	8251	8305	8359	8412	8466	8520	8574	8628	8682		
8070	8735	8789	8843	8897	8951	9004	9058	9112	9166	9220		
71	9273	9327	9381	9435	9489	9543	9596	9650	9704	9758		
72	9812	9865	9919	9973	0027	0081	0134	0188	0242	0296		
73	907.02	500403	0457	0511	0565	0618	0672	0726	0780	0834		
74	0887	0941	0995	1049	1103	1156	1210	1264	1318	1372		
75	1425	1479	1533	1587	1640	1694	1748	1802	1856	1909		
76	1963	2017	2071	2124	2178	2231	2286	2340	2393	2447		
77	2501	2555	2608	2662	2716	2770	2823	2877	2931	2985		
78	3038	3092	3146	3200	3254	3307	3361	3415	3469	3522		
79	3576	3630	3684	3737	3791	3845	3899	3952	4006	4060		
8080	4114	4167	4221	4275	4329	4382	4436	4490	4544	4597	53.7	
81	4651	4705	4759	4812	4866	4920	4974	5027	5081	5135		
82	5188	5242	5296	5350	5403	5457	5511	5565	5618	5672		
83	5726	5779	5833	5887	5941	5994	6048	6102	6156	6209		
84	6263	6317	6370	6424	6478	6532	6585	6639	6693	6747		
85	6800	6854	6908	6961	7015	7069	7123	7176	7230	7284		
86	7337	7391	7445	7498	7552	7606	7660	7713	7767	7821		
87	7874	7928	7982	8036	8089	8143	8197	8250	8304	8358		
88	8411	8465	8519	8573	8626	8680	8734	8787	8841	8895		
89	8948	9002	9056	9109	9163	9217	9270	9324	9378	9432		
8090	9485	9539	9593	9646	9700	9754	9807	9861	9915	9968	53.5	
91	908.00	0222	0276	0129	0183	0237	0290	0344	0398	0451	0505	1—5
92	0559	0612	0666	0720	0773	0827	0881	0934	0988	1042	2—11	
93	1095	1149	1203	1256	1310	1364	1417	1471	1525	1578	3—16	
94	1632	1686	1739	1793	1847	1900	1954	2008	2061	2115	4—21	
95	2169	2222	2276	2329	2383	2437	2490	2544	2598	2651	53.6	5—27
96	2705	2759	2812	2866	2920	2973	3027	3080	3134	3188	6—32	
97	3241	3295	3349	3402	3456	3510	3563	3617	3670	3724	7—37	
98	3778	3831	3885	3939	3992	4046	4099	4153	4207	4260	8—43	
99	4314	4368	4421	4475	4528	4582	4636	4689	4743	4797	9—48	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 81000. L. 908.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8100	908.4850	4904	4957	5011	5065	5118	5172	5225	5279	5333		
01	5386	5440	5494	5547	5601	5654	5708	5762	5815	5869		
02	5922	5976	6030	6083	6137	6190	6244	6298	6351	6405		
03	6458	6512	6566	6619	6673	6726	6780	6834	6887	6941		
04	6994	7048	7102	7155	7209	7262	7316	7369	7423	7477		
05	7530	7584	7637	7691	7745	7798	7852	7905	7959	8012		
06	8066	8120	8173	8227	8280	8334	8387	8441	8495	8548		
07	8602	8655	8709	8762	8816	8870	8923	8977	9030	9084		
08	9137	9191	9245	9298	9352	9405	9459	9512	9566	9619		
09	9673	9727	9780	9834	9887	9941	9994	0048	0101	0155		
8110	909.0209	0262	0316	0369	0423	0476	0530	0583	0637	0690	53.5	53.5
11	0744	0798	0851	0905	0958	1012	1065	1119	1172	1226		1-5
12	1279	1333	1386	1440	1494	1547	1601	1654	1708	1761		2-11
13	1815	1868	1922	1975	2029	2082	2136	2189	2243	2297		3-16
14	2350	2404	2457	2511	2564	2618	2671	2725	2778	2832		4-21
15	2885	2939	2992	3046	3099	3153	3206	3260	3313	3367		5-27
16	3420	3474	3527	3581	3634	3688	3741	3795	3848	3902		6-32
17	3955	4009	4062	4116	4169	4223	4276	4330	4383	4437		7-37
18	4490	4544	4597	4651	4704	4758	4811	4865	4918	4972		8-43
19	5025	5079	5132	5186	5239	5293	5346	5400	5453	5507		9-48
8120	5560	5614	5667	5721	5774	5828	5881	5935	5988	6042		
21	6095	6149	6202	6256	6309	6362	6416	6469	6523	6576		
22	6630	6683	6737	6790	6844	6897	6951	7004	7058	7111		
23	7165	7218	7271	7325	7378	7432	7485	7539	7592	7646		
24	7699	7753	7806	7860	7913	7966	8020	8073	8127	8180		
25	8234	8287	8341	8394	8447	8501	8554	8608	8661	8715	53.4	
26	8768	8822	8875	8929	8982	9035	9089	9142	9195	9249		
27	9302	9356	9409	9463	9516	9570	9623	9677	9730	9784		
28	9837	9890	9944	9997	0051	0104	0158	0211	0264	0318		
29	910.0371	0425	0478	0532	0585	0638	0692	0745	0799	0852		
8130	0905	0959	1012	1066	1119	1173	1226	1279	1333	1386		
31	1440	1493	1546	1600	1653	1707	1760	1813	1867	1920		
32	1974	2027	2081	2134	2187	2241	2294	2348	2401	2454		
33	2508	2561	2615	2668	2721	2775	2828	2881	2935	2988		
34	3042	3095	3148	3202	3255	3309	3362	3415	3469	3522		
35	3576	3629	3682	3736	3789	3842	3896	3949	4003	4056		
36	4109	4163	4216	4270	4323	4376	4430	4483	4536	4590		
37	4643	4697	4750	4803	4857	4910	4963	5017	5070	5123		
38	5177	5230	5284	5337	5390	5444	5497	5550	5604	5657		
39	5710	5764	5817	5871	5924	5977	6031	6084	6137	6191		
8140	6244	6297	6351	6404	6457	6511	6564	6618	6671	6724	53.3	
41	6778	6831	6884	6938	6991	7044	7098	7151	7204	7258		
42	7311	7364	7418	7471	7524	7578	7631	7684	7738	7791		
43	7844	7898	7951	8004	8058	8111	8164	8218	8271	8324		
44	8378	8431	8484	8538	8591	8644	8698	8751	8804	8858		
45	8911	8964	9018	9071	9124	9177	9231	9284	9337	9391		
46	9444	9497	9551	9604	9657	9711	9764	9817	9871	9924		
47	9977	0030	0084	0137	0190	0244	0297	0350	0404	0457		
48	911.0510	0564	0617	0670	0723	0777	0830	0883	0937	0990		
49	1043	1096	1150	1203	1256	1310	1363	1416	1470	1523		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 81500. L. 911

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
8150	11576	1629	1683	1736	1789	1843	1896	1949	2002	2056		
51	2109	2162	2215	2269	2322	2375	2429	2482	2534	2588		
52	2642	2695	2748	2802	2855	2908	2961	3015	3068	3121		
53	3174	3228	3281	3334	3387	3441	3494	3547	3601	3654		
54	3707	3760	3814	3867	3920	3973	4027	4080	4133	4186		
55	4240	4293	4346	4399	4453	4506	4559	4612	4666	4719		
56	4772	4825	4879	4932	4985	5038	5092	5145	5198	5251	53.2	
57	5305	5358	5411	5464	5518	5571	5624	5677	5731	5784		
58	5837	5890	5943	5997	6050	6103	6156	6210	6263	6316		
59	6369	6423	6476	6529	6582	6635	6689	6742	6795	6848		
8160	6902	6955	7008	7061	7114	7168	7221	7274	7327	7381		
61	7434	7487	7540	7593	7647	7700	7753	7806	7859	7913		
62	7966	8019	8072	8126	8179	8232	8285	8338	8392	8445		
63	8498	8551	8604	8658	8711	8764	8817	8870	8924	8977		
64	9030	9083	9136	9190	9243	9296	9349	9402	9456	9509		
65	9562	9615	9668	9721	9775	9828	9881	9934	9987	0041		
66	012.0094	0147	0200	0253	0306	0360	0413	0466	0519	0572		
67	0626	0679	0732	0785	0837	0891	0945	0998	1051	1104		
68	1157	1210	1264	1317	1370	1423	1476	1529	1583	1636		
69	1689	1742	1795	1848	1902	1955	2008	2061	2114	2167		
8170	2221	2274	2327	2380	2433	2486	2539	2593	2646	2699		
71	2752	2805	2858	2912	2965	3018	3071	3124	3177	3230	53.1	
72	3284	3337	3390	3443	3496	3549	3602	3656	3709	3762		
73	3815	3868	3921	3974	4028	4081	4134	4187	4240	4293		
74	4346	4399	4453	4506	4559	4612	4665	4718	4771	4824		
75	4878	4931	4984	5037	5090	5143	5196	5249	5303	5356		
76	5409	5462	5515	5568	5621	5674	5728	5781	5834	5887		
77	5940	5993	6046	6099	6152	6206	6259	6312	6365	6418		
78	6471	6524	6577	6630	6683	6737	6790	6843	6896	6949		
79	7002	7055	7108	7161	7214	7268	7321	7374	7427	7480		
8180	7533	7586	7639	7692	7745	7798	7852	7905	7958	8011		
81	8064	8117	8170	8223	8276	8329	8382	8436	8489	8542		
82	8595	8648	8701	8754	8807	8860	8913	8967	9019	9072		
83	9126	9179	9232	9285	9338	9391	9444	9497	9550	9603		
84	9656	9709	9762	9815	9868	9922	9975	0028	0081	0134		
85	013.0187	0240	0293	0346	0399	0452	0505	0558	0611	0664		
86	0717	0770	0824	0877	0930	0983	1036	1089	1142	1195		
87	1248	1301	1354	1407	1460	1513	1566	1619	1672	1725	53	
88	1778	1831	1884	1937	1990	2044	2097	2150	2203	2256		
89	2309	2362	2415	2468	2521	2574	2627	2680	2733	2786		
8190	2839	2892	2945	2998	3051	3104	3157	3210	3263	3316		53
91	3369	3422	3475	3528	3581	3634	3687	3740	3793	3846	1—5	
92	3899	3952	4005	4058	4111	4165	4218	4271	4324	4377	2—11	
93	4430	4483	4536	4589	4642	4695	4748	4801	4854	4907	3—16	
94	4960	5013	5066	5119	5172	5225	5278	5331	5384	5437	4—21	
95	5490	5543	5596	5649	5702	5755	5808	5861	5914	5967	5—26	
96	6019	6072	6125	6178	6231	6284	6337	6390	6443	6496	6—32	
97	6549	6602	6655	6708	6761	6814	6867	6920	6973	7026	7—37	
98	7079	7132	7185	7238	7291	7344	7397	7450	7503	7556	8—42	
99	7609	7662	7715	7768	7821	7874	7927	7980	8033	8086	9—48	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 82000. L913.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
8200	913	8139	8191	8244	8297	8350	8403	8456	8509	8562	8615	57
01		8668	8721	8774	8827	8880	8933	8986	9039	9092	9145	1—5
02		9198	9251	9304	9356	9409	9462	9515	9568	9621	9674	2—11
03		9727	9780	9833	9886	9939	9992	0045	0098	0151	0204	3—16
04	914	0257	0309	0362	0415	0468	0521	0574	0627	0680	0733	4—21
05		0786	0839	0892	0945	0998	1051	1103	1156	1209	1262	5—26
06		1315	1368	1421	1474	1527	1580	1633	1686	1738	1791	6—32
07		1844	1897	1950	2003	2056	2109	2162	2215	2268	2321	7—37
08		2373	2426	2479	2532	2585	2638	2691	2744	2797	2850	8—42
09		2903	2955	3008	3061	3114	3167	3220	3273	3326	3379	9—48
8210		3432	3484	3537	3590	3643	3696	3749	3802	3855	3908	
11		3961	4013	4066	4119	4172	4225	4278	4331	4384	4437	
12		4489	4542	4595	4648	4701	4754	4807	4860	4912	4965	
13		5018	5071	5124	5177	5230	5283	5335	5388	5441	5494	
14		5547	5600	5653	5706	5758	5811	5864	5917	5970	6023	
15		6076	6129	6181	6234	6287	6340	6393	6446	6499	6551	
16		6604	6657	6710	6763	6816	6869	6921	6974	7027	7080	
17		7133	7186	7239	7291	7344	7397	7450	7503	7556	7609	528
18		7661	7714	7767	7820	7873	7926	7978	8031	8084	8137	
19		8190	8243	8295	8348	8401	8454	8507	8560	8613	8665	
8220		8718	8771	8824	8877	8930	8982	9035	9088	9141	9194	
21		9246	9299	9352	9405	9458	9511	9563	9616	9669	9722	
22		9775	9828	9880	9933	9986	0039	0092	0144	0197	0250	
23	915	0303	0356	0409	0461	0514	0567	0620	0673	0725	0778	
24		0831	0884	0937	0989	1042	1095	1148	1201	1253	1306	
25		1359	1412	1465	1518	1570	1623	1676	1729	1781	1834	
26		1887	1940	1993	2045	2098	2151	2204	2257	2309	2362	
27		2415	2468	2521	2573	2626	2679	2732	2784	2837	2890	
28		2943	2996	3048	3101	3154	3207	3260	3312	3365	3418	
29		3471	3523	3576	3629	3682	3734	3787	3840	3893	3946	
8230		3998	4051	4104	4157	4209	4262	4315	4368	4420	4473	
31		4526	4579	4632	4684	4737	4790	4843	4895	4948	5001	
32		5054	5106	5159	5212	5265	5317	5370	5423	5476	5528	
33		5581	5634	5687	5739	5792	5845	5898	5950	6003	6056	427
34		6109	6161	6214	6267	6320	6372	6425	6478	6531	6583	
35		6636	6689	6742	6794	6847	6900	6952	7005	7058	7111	
36		7163	7216	7269	7322	7374	7427	7480	7532	7585	7638	
37		7691	7743	7796	7849	7902	7954	8007	8060	8112	8165	
38		8218	8271	8323	8376	8429	8481	8534	8587	8640	8692	
39		8745	8798	8850	8903	8956	9009	9061	9114	9167	9219	
8240		9272	9325	9378	9430	9483	9536	9588	9641	9694	9746	
41		9799	9852	9905	9957	0010	0063	0115	0168	0221	0273	
42	916	0326	0379	0431	0484	0537	0590	0642	0695	0748	0800	
43		0853	0906	0958	1011	1064	1116	1169	1222	1274	1327	
44		1380	1433	1485	1538	1591	1643	1696	1749	1801	1854	
45		1907	1959	2012	2065	2117	2170	2223	2275	2328	2381	
46		2433	2486	2539	2591	2644	2697	2749	2802	2855	2907	
47		2960	3013	3065	3118	3171	3223	3276	3329	3381	3434	
48		3487	3539	3592	3644	3697	3750	3802	3855	3908	3960	
49		4013	4066	4118	4171	4224	4276	4329	4382	4434	4487	526
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000

N. 82500. L. 916

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8250	916.4539	4592	1645	4627	4750	4803	4855	4908	4961	5013		
51	5066	5119	5171	5224	5276	5329	5382	5434	5487	5540		
52	5592	5645	5697	5750	5803	5855	5908	5961	6013	6066		
53	6118	6171	6224	6276	6329	6382	6434	6487	6539	6592		
54	6645	6697	6750	6803	6855	6908	6960	7013	7066	7118		
55	7171	7223	7276	7329	7381	7434	7486	7539	7592	7644		
56	7697	7749	7802	7855	7907	7960	8012	8065	8118	8170		
57	8223	8275	8328	8381	8433	8486	8538	8591	8644	8696		
58	8749	8801	8854	8907	8959	9012	9064	9117	9169	9222		
59	9275	9327	9380	9432	9485	9538	9590	9643	9695	9748		
8260	9800	9853	9906	9958	0011	0063	0116	0169	0221	0274		
61	917.0326	0379	0431	0484	0537	0589	0642	0694	0747	0799		
62	0852	0904	0957	1010	1062	1115	1167	1220	1272	1325		
63	1378	1430	1483	1535	1588	1640	1693	1745	1798	1851	525	
64	1903	1956	2008	2061	2113	2166	2218	2271	2323	2376		
65	2429	2481	2534	2586	2639	2691	2744	2796	2849	2901		
66	2954	3007	3059	3112	3164	3217	3269	3322	3374	3427		
67	3479	3532	3584	3637	3690	3742	3795	3847	3900	3952		
68	4005	4057	4110	4162	4215	4267	4320	4372	4425	4477		
69	4530	4582	4635	4687	4740	4793	4845	4898	4950	5003		
8270	5055	5108	5160	5213	5265	5318	5370	5423	5475	5528		
71	5580	5633	5685	5738	5790	5843	5895	5948	6000	6053		
72	6105	6158	6210	6263	6315	6368	6420	6473	6525	6578		
73	6630	6683	6735	6788	6840	6893	6945	6998	7050	7103		
74	7155	7208	7260	7313	7365	7418	7470	7523	7575	7628		
75	7680	7733	7785	7837	7890	7942	7995	8047	8100	8152		
76	8205	8257	8310	8362	8415	8467	8520	8572	8625	8677		
77	8730	8782	8834	8887	8939	8992	9044	9097	9149	9202		
78	9254	9307	9359	9412	9464	9517	9569	9621	9674	9726		
79	9779	9831	9884	9936	9989	0041	0094	0146	0198	0251		
8280	918.0303	0356	0408	0461	0513	0560	0618	0671	0723	0775	524	
81	0828	0880	0933	0985	1038	1090	1143	1195	1247	1300		
82	1352	1405	1457	1510	1562	1614	1667	1719	1772	1824		
83	1877	1929	1981	2034	2086	2139	2191	2244	2296	2348		
84	2401	2453	2506	2558	2611	2663	2715	2768	2820	2873		
85	2925	2978	3030	3082	3135	3187	3240	3292	3344	3397		
86	3449	3502	3554	3607	3659	3711	3764	3816	3869	3921		
87	3973	4026	4078	4131	4183	4235	4288	4340	4393	4445		
88	4497	4550	4602	4655	4707	4759	4812	4864	4917	4969		
89	5021	5074	5126	5179	5231	5283	5336	5388	5441	5493		
8290	5545	5598	5650	5702	5755	5807	5860	5912	5964	6017	525	
91	6069	6122	6174	6226	6279	6331	6383	6435	6488	6541	1—5	
92	6593	6645	6698	6750	6802	6855	6907	6960	7012	7064	2—10	
93	7117	7169	7221	7274	7326	7378	7431	7483	7536	7588	3—16	
94	7640	7693	7745	7797	7850	7902	7954	8007	8059	8112	4—21	
95	8164	8216	8269	8321	8373	8426	8478	8530	8583	8635	5—26	
96	8687	8740	8792	8844	8897	8949	9002	9054	9106	9159	523	5—31
97	9211	9263	9316	9368	9420	9473	9525	9577	9630	9682	7—37	
98	9734	9787	9839	9891	9944	9996	0048	0101	0153	0205	8—42	
99	919.0258	0310	0362	0415	0467	0519	0572	0624	0676	0729	9—47	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.83000. L.919.										Logarithms		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8300	0781	0833	0886	0938	0990	1043	1095	1147	1200	1252		
01	1304	1356	1409	1461	1513	1566	1618	1670	1723	1775		
02	1827	1880	1932	1984	2037	2089	2141	2193	2246	2298		
03	2350	2403	2455	2507	2560	2612	2664	2717	2769	2821		
04	2873	2926	2978	3030	3083	3135	3187	3239	3292	3344		
05	3396	3449	3501	3553	3606	3658	3710	3762	3815	3867		
06	3919	3972	4024	4076	4128	4181	4233	4285	4338	4390		
07	4442	4494	4547	4599	4651	4703	4756	4808	4860	4913		
08	4965	5017	5069	5122	5174	5226	5279	5331	5383	5435		
09	5488	5540	5592	5644	5697	5749	5801	5853	5906	5958		
8310	6010	6062	6115	6167	6219	6272	6324	6376	6428	6481		
11	6533	6585	6637	6690	6742	6794	6846	6899	6951	7003		
12	7055	7108	7160	7212	7264	7317	7369	7421	7473	7526	52.2	
13	7578	7630	7682	7735	7787	7839	7891	7943	7996	8048		
14	8100	8152	8205	8257	8309	8361	8414	8466	8518	8570		
15	8623	8675	8727	8779	8831	8884	8936	8988	9040	9093		
16	9145	9197	9249	9301	9354	9406	9458	9510	9563	9615		
17	9667	9719	9771	9824	9876	9928	9980	0033	0085	0137		
18	0189	0241	0294	0346	0398	0450	0502	0555	0607	0659		
19	0711	0763	0816	0868	0920	0972	1024	1077	1129	1181		
8320	1233	1285	1338	1390	1442	1494	1546	1599	1651	1703		
21	1755	1807	1860	1912	1964	2016	2068	2121	2173	2225		
22	2277	2329	2381	2434	2486	2538	2590	2642	2695	2747		
23	2799	2851	2903	2955	3008	3060	3112	3164	3216	3269		
24	3321	3373	3425	3477	3529	3582	3634	3686	3738	3790		
25	3842	3895	3947	3999	4051	4103	4155	4208	4260	4312		
26	4364	4416	4468	4521	4573	4625	4677	4729	4781	4833		
27	4886	4938	4990	5042	5094	5146	5199	5251	5303	5355		
28	5407	5459	5511	5564	5616	5668	5720	5772	5824	5876	52.1	
29	5929	5981	6033	6085	6137	6189	6241	6294	6346	6398		
8330	6450	6502	6554	6606	6659	6711	6763	6815	6867	6919	52	
31	6971	7023	7076	7128	7180	7232	7284	7336	7388	7440	1—5	
32	7493	7545	7597	7649	7701	7753	7805	7857	7910	7962	2—10	
33	8014	8066	8118	8170	8222	8274	8327	8379	8431	8483	3—16	
34	8535	8587	8639	8691	8743	8796	8848	8900	8952	9004	4—21	
35	9056	9108	9160	9212	9264	9317	9369	9421	9473	9525	5—26	
36	9577	9629	9681	9733	9785	9838	9890	9942	9994	0046	6—31	
37	0098	0150	0202	0254	0306	0358	0411	0463	0515	0567	7—36	
38	0619	0671	0723	0775	0827	0879	0931	0983	1036	1088	8—42	
39	1140	1192	1244	1296	1348	1400	1452	1504	1556	1608	9—47	
8340	1661	1713	1765	1817	1869	1921	1973	2025	2077	2129		
41	2181	2233	2285	2337	2389	2442	2494	2546	2598	2650		
42	2702	2754	2806	2858	2910	2962	3014	3066	3118	3170		
43	3222	3274	3327	3379	3431	3483	3535	3587	3639	3691		
44	3743	3795	3847	3899	3951	4003	4055	4107	4159	4211	52	
45	4263	4315	4367	4420	4472	4524	4576	4628	4680	4732		
46	4784	4836	4888	4940	4992	5044	5096	5148	5200	5252		
47	5304	5356	5408	5460	5512	5564	5616	5668	5720	5772		
48	5824	5876	5928	5980	6032	6085	6137	6189	6241	6293		
49	6345	6397	6449	6501	6553	6605	6657	6709	6761	6813		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 83500. L. 921

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8350	21.6865	6917	6969	7021	7073	7125	7177	7229	7281	7333		
51	7385	7437	7489	7541	7593	7645	7697	7749	7801	7853		
52	7905	7957	8009	8061	8113	8165	8217	8269	8321	8373		
53	8425	8477	8529	8581	8633	8685	8737	8789	8841	8893		
54	8945	8997	9049	9101	9153	9205	9257	9309	9361	9413		
55	9465	9517	9569	9620	9672	9724	9776	9828	9880	9932		
56	9984	0036	0088	0140	0192	0244	0296	0348	0400	0452		
57	922.0504	0556	0608	0660	0712	0764	0816	0868	0920	0972		
58	1024	1076	1128	1180	1232	1283	1335	1387	1439	1491		
59	1543	1595	1647	1699	1751	1803	1855	1907	1959	2011		
8360	2063	2115	2167	2219	2271	2323	2374	2426	2478	2530	51.9	
61	2582	2634	2686	2738	2790	2842	2894	2946	2998	3050		
62	3102	3154	3206	3257	3309	3361	3413	3465	3517	3569		
63	3621	3673	3725	3777	3829	3881	3933	3984	4036	4088		
64	4140	4192	4244	4296	4348	4400	4452	4504	4556	4608		
65	4659	4711	4763	4815	4867	4919	4971	5023	5075	5127		
66	5179	5231	5282	5334	5386	5438	5490	5542	5594	5646		
67	5698	5750	5801	5853	5905	5957	6009	6061	6113	6165		
68	6217	6269	6321	6372	6424	6476	6528	6580	6632	6684		
69	6736	6788	6839	6891	6943	6995	7047	7099	7151	7203		
8370	7255	7306	7358	7410	7462	7514	7566	7618	7670	7722		
71	7773	7825	7877	7929	7981	8033	8085	8137	8188	8240		
72	8292	8344	8396	8448	8500	8552	8603	8655	8707	8759		
73	8811	8863	8915	8967	9018	9070	9122	9174	9226	9278		
74	9330	9381	9433	9485	9537	9589	9641	9693	9744	9796		
75	9848	9900	9952	0004	0056	0107	0159	0211	0263	0315		
76	923.0367	0419	0470	0522	0574	0626	0678	0730	0781	0833	51.8	
77	0885	0937	0989	1041	1093	1144	1196	1248	1300	1352		
78	1404	1455	1507	1559	1611	1663	1715	1766	1818	1870		
79	1922	1974	2026	2077	2129	2181	2233	2285	2337	2388		
8380	2440	2492	2544	2596	2647	2699	2751	2803	2855	2907	51.5	
81	2958	3010	3062	3114	3166	3217	3269	3321	3373	3425	1-5	
82	3477	3528	3580	3632	3684	3736	3787	3839	3891	3943	2-10	
83	3995	4046	4098	4150	4202	4254	4305	4357	4409	4461	3-15	
84	4513	4564	4616	4668	4720	4772	4823	4875	4927	4979	4-21	
85	5031	5082	5134	5186	5238	5290	5341	5393	5445	5497	5-26	
86	5549	5600	5652	5704	5756	5808	5859	5911	5963	6015	6-31	
87	6066	6118	6170	6222	6274	6325	6377	6429	6481	6532	7-36	
88	6584	6636	6688	6740	6791	6843	6895	6947	6998	7050	8-41	
89	7102	7154	7205	7257	7309	7361	7413	7464	7516	7568	9-46	
8390	7620	7671	7723	7775	7827	7878	7930	7982	8034	8085		
91	8137	8189	8241	8292	8344	8396	8448	8499	8551	8603		
92	8655	8707	8758	8810	8862	8913	8965	9017	9069	9120	51.7	
93	9172	9224	9276	9327	9379	9431	9483	9534	9586	9638		
94	9690	9741	9793	9845	9897	9948	0000	0052	0104	0156		
95	924.0207	0259	0310	0362	0414	0466	0517	0569	0621	0673		
96	0724	0776	0828	0879	0931	0983	1035	1086	1138	1190		
97	1242	1293	1345	1397	1448	1500	1552	1604	1655	1707		
98	1759	1810	1862	1914	1966	2017	2069	2121	2172	2224		
99	2276	2328	2379	2431	2483	2534	2586	2638	2689	2741		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 84000. L. 924

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8400	24.2793	2845	2896	2948	3000	3051	3103	3155	3206	3258		51.5
01	3310	3362	3413	3465	3517	3568	3620	3672	3723	3775		1—5
02	3827	3878	3930	3982	4034	4085	4137	4189	4240	4292		2—10
03	4344	4395	4447	4499	4550	4602	4654	4705	4757	4809		3—15
04	4860	4912	4964	5015	5067	5119	5170	5222	5274	5326		4—21
05	5377	5429	5481	5532	5584	5636	5687	5739	5791	5842		5—26
06	5894	5946	5997	6049	6101	6152	6204	6255	6307	6359		6—31
07	6410	6462	6514	6565	6617	6669	6720	6772	6824	6875		7—36
08	6927	6979	7030	7082	7134	7185	7237	7289	7340	7392	51.6	8—41
09	7444	7495	7547	7598	7650	7702	7753	7805	7857	7908		9—46
8410	7960	8012	8063	8115	8167	8218	8270	8321	8373	8425		
11	8476	8528	8580	8631	8683	8734	8786	8838	8889	8941		
12	8993	9044	9096	9148	9199	9251	9302	9354	9406	9457		
13	9509	9561	9612	9664	9715	9767	9819	9870	9922	9973		
14	925.0025	0077	0128	0180	0232	0283	0335	0386	0438	0490		
15	0541	0593	0644	0696	0748	0799	0851	0902	0954	1006		
16	1057	1109	1160	1212	1264	1315	1367	1418	1470	1522		
17	1573	1625	1676	1728	1780	1831	1883	1934	1986	2038		
18	2089	2141	2192	2244	2296	2347	2399	2450	2502	2554		
19	2605	2657	2708	2760	2811	2863	2915	2966	3018	3069		
8420	3121	3172	3224	3276	3327	3379	3430	3482	3534	3585		
21	3637	3688	3740	3791	3843	3895	3946	3998	4049	4101		
22	4152	4204	4256	4307	4359	4410	4462	4513	4565	4616		
23	4668	4720	4771	4823	4874	4926	4977	5029	5080	5132		
24	5184	5235	5287	5338	5390	5441	5493	5544	5596	5648		
25	5699	5751	5802	5854	5905	5957	6008	6060	6111	6163	51.5	
26	6215	6266	6318	6369	6421	6472	6524	6575	6627	6678		
27	6730	6781	6833	6885	6936	6988	7039	7091	7142	7194		
28	7245	7297	7348	7400	7451	7503	7554	7606	7657	7709		
29	7761	7812	7864	7915	7967	8018	8070	8121	8173	8224		
8430	8276	8327	8379	8430	8482	8533	8585	8636	8688	8739		
31	8791	8842	8894	8945	8997	9048	9100	9151	9203	9254		
32	9306	9357	9409	9460	9512	9563	9615	9667	9718	9770		
33	9821	9873	9924	9975	0027	0078	0130	0181	0233	0284		
34	926.0336	0387	0439	0490	0542	0593	0645	0696	0748	0799		
35	0851	0902	0954	1005	1057	1108	1160	1211	1263	1314		
36	1366	1417	1469	1520	1572	1623	1675	1726	1778	1829		
37	1880	1932	1983	2035	2086	2138	2189	2241	2292	2344		
38	2395	2447	2498	2550	2601	2653	2704	2755	2807	2858		
39	2910	2961	3013	3064	3116	3167	3219	3270	3322	3373		
8440	3424	3476	3527	3579	3630	3682	3733	3785	3836	3888		
41	3939	3990	4042	4093	4145	4196	4248	4299	4351	4402	51.4	
42	4453	4505	4556	4608	4659	4711	4762	4814	4865	4916		
43	4968	5019	5071	5122	5174	5225	5277	5328	5379	5431		
44	5482	5534	5585	5637	5688	5739	5791	5842	5894	5945		
45	5997	6048	6099	6151	6202	6254	6305	6357	6408	6459		
46	6511	6562	6614	6665	6716	6768	6819	6871	6922	6974		
47	7025	7076	7128	7179	7231	7282	7333	7385	7436	7488		
48	7539	7590	7642	7693	7745	7796	7847	7899	7950	8002		
49	8053	8105	8156	8207	8259	8310	8362	8413	8464	8516		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10,000.

N. 84500. L. 926

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
8450	26.8567	8618	8670	8721	8773	8824	8875	8927	8978	9030		
51	9081	9132	9184	9235	9287	9338	9389	9441	9492	9543		
52	9595	9646	9698	9749	9800	9852	9903	9955	0006	0057		
53	27.0109	0160	0211	0263	0314	0366	0417	0468	0520	0571		
54	0622	0674	0725	0777	0828	0879	0931	0982	1033	1085		
55	1136	1187	1239	1290	1342	1393	1444	1496	1547	1598		
56	1650	1701	1752	1804	1855	1907	1958	2009	2061	2112		
57	2163	2215	2266	2317	2369	2420	2471	2523	2574	2625		
58	2677	2728	2780	2831	2882	2934	2985	3036	3088	3139	51.3	
59	3190	3242	3293	3344	3396	3447	3498	3550	3601	3652		
8460	3704	3755	3806	3858	3909	3960	4012	4063	4114	4166		
61	4217	4268	4320	4371	4422	4474	4525	4576	4628	4679		
62	4730	4782	4833	4884	4935	4987	5038	5089	5141	5192		
63	5243	5295	5346	5397	5449	5500	5551	5603	5654	5705		
64	5757	5808	5859	5910	5962	6013	6064	6116	6167	6218		
65	6270	6321	6372	6424	6475	6526	6577	6629	6680	6731		
66	6783	6834	6885	6937	6988	7039	7090	7142	7193	7244		
67	7296	7347	7398	7449	7501	7552	7603	7655	7706	7757		
68	7808	7860	7911	7962	8014	8065	8116	8167	8219	8270		
69	8321	8373	8424	8475	8526	8578	8629	8680	8732	8783		
8470	8834	8885	8937	8988	9039	9090	9142	9193	9244	9296		
71	9347	9398	9449	9501	9552	9603	9654	9706	9757	9808		
72	9859	9911	9962	0013	0065	0116	0167	0218	0270	0321		
73	928.0372	0423	0475	0526	0577	0628	0680	0731	0782	0833		
74	0885	0936	0987	1038	1090	1141	1192	1243	1295	1346	51.2	
75	1397	1448	1500	1551	1602	1653	1705	1756	1807	1858		
76	1909	1961	2012	2063	2114	2165	2217	2268	2319	2371		
77	2422	2473	2524	2576	2627	2678	2729	2780	2832	2883		
78	2934	2985	3037	3088	3139	3190	3241	3293	3344	3395		
79	3446	3498	3549	3600	3651	3702	3754	3805	3856	3907		
8480	3959	4010	4061	4112	4163	4215	4266	4317	4368	4419		
81	4471	4522	4573	4624	4675	4727	4778	4829	4880	4931		
82	4983	5034	5085	5136	5187	5239	5290	5341	5392	5443		
83	5495	5546	5597	5648	5699	5751	5802	5853	5904	5955		
84	6007	6058	6109	6160	6211	6263	6314	6365	6416	6467		
85	6518	6570	6621	6672	6723	6774	6826	6877	6928	6979		
86	7030	7081	7133	7184	7235	7286	7337	7389	7440	7491		
87	7542	7593	7644	7696	7747	7798	7849	7900	7951	8003		
88	8054	8105	8156	8207	8258	8310	8361	8412	8463	8514		
89	8565	8616	8668	8719	8770	8821	8872	8923	8975	9026		
8490	9077	9128	9179	9230	9282	9333	9384	9435	9486	9537		51
91	9588	9640	9691	9742	9793	9844	9895	9946	9998	0049	51.1	1-5
92	929.0100	0151	0202	0253	0304	0356	0407	0458	0509	0560		2-10
93	0611	0662	0714	0765	0816	0867	0918	0969	1020	1071		3-15
94	1123	1174	1225	1276	1327	1378	1429	1480	1532	1583		4-20
95	1634	1685	1736	1787	1838	1889	1941	1992	2043	2094		5-25
96	2145	2196	2247	2298	2350	2401	2452	2503	2554	2605		6-31
97	2656	2707	2758	2810	2861	2912	2963	3014	3065	3116		7-36
98	3167	3218	3269	3321	3372	3423	3474	3525	3576	3627		8-41
99	3678	3729	3780	3832	3883	3934	3985	4036	4087	4138		9-46
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8500	929.4189	4240	4291	4342	4394	4445	4496	4547	4598	4649		
01	4700	4751	4802	4853	4905	4956	5007	5058	5109	5160		
02	5211	5262	5313	5364	5415	5466	5517	5569	5620	5671		
03	5722	5773	5824	5875	5926	5977	6028	6079	6130	6181		
04	6233	6284	6335	6386	6437	6488	6539	6590	6641	6692		
05	6743	6794	6845	6896	6947	6998	7050	7101	7152	7203		
06	7254	7305	7356	7407	7458	7509	7560	7611	7662	7713		
07	7764	7815	7866	7917	7969	8020	8071	8122	8173	8224	51	
08	8275	8326	8377	8428	8479	8530	8581	8632	8683	8734		
09	8785	8836	8887	8938	8989	9040	9091	9142	9194	9245		
8510	9296	9347	9398	9449	9500	9551	9602	9653	9704	9755		51
11	9806	9857	9908	9959	0010	0061	0112	0163	0214	0265		1—5
12	930.0316	0367	0418	0469	0520	0571	0622	0673	0724	0775		2—10
13	0826	0877	0928	0979	1030	1081	1132	1183	1234	1285		3—15
14	1336	1387	1438	1489	1540	1591	1643	1694	1745	1796		4—20
15	1847	1898	1949	2000	2051	2102	2153	2204	2255	2306		5—25
16	2357	2408	2459	2510	2561	2612	2663	2713	2764	2815		6—31
17	2866	2917	2968	3019	3070	3121	3172	3223	3274	3325		7—36
18	3376	3427	3478	3529	3580	3631	3682	3733	3784	3835		8—41
19	3886	3937	3988	4039	4090	4141	4192	4243	4294	4345		9—46
8520	4396	4447	4498	4549	4600	4651	4702	4753	4804	4855		
21	4906	4957	5008	5059	5110	5160	5211	5262	5313	5364		
22	5415	5466	5517	5568	5619	5670	5721	5772	5823	5874		
23	5925	5976	6027	6078	6129	6180	6231	6282	6333	6383		
24	6434	6485	6536	6587	6638	6689	6740	6791	6842	6893	50.9	
25	6944	6995	7046	7097	7148	7199	7250	7300	7351	7402		
26	7453	7504	7555	7606	7657	7708	7759	7810	7861	7912		
27	7963	8014	8064	8115	8166	8217	8268	8319	8370	8421		
28	8472	8523	8574	8625	8676	8727	8777	8828	8879	8930		
29	8981	9032	9083	9134	9185	9236	9287	9338	9388	9439		
8530	9490	9541	9592	9643	9694	9745	9796	9847	9898	9949		
31	9999	0050	0101	0152	0203	0254	0305	0356	0407	0458		
32	931.0508	0559	0610	0661	0712	0763	0814	0865	0916	0967		
33	1017	1068	1119	1170	1221	1272	1323	1374	1425	1475		
34	1526	1577	1628	1679	1730	1781	1832	1883	1933	1984		
35	2035	2086	2137	2188	2239	2290	2341	2391	2442	2493		
36	2544	2595	2646	2697	2748	2798	2849	2900	2951	3002		
37	3053	3104	3155	3205	3256	3307	3358	3409	3460	3511		
38	3562	3612	3663	3714	3765	3816	3867	3918	3968	4019		
39	4070	4121	4172	4223	4274	4324	4375	4426	4477	4528		
8540	4579	4630	4680	4731	4782	4833	4884	4935	4986	5036		
41	5087	5138	5189	5240	5291	5341	5392	5443	5494	5545	50.8	
42	5596	5647	5697	5748	5799	5850	5901	5952	6002	6053		
43	6104	6155	6206	6257	6307	6358	6409	6460	6511	6562		
44	6612	6663	6714	6765	6816	6867	6917	6968	7019	7070		
45	7121	7171	7222	7273	7324	7375	7426	7476	7527	7578		
46	7629	7680	7731	7781	7832	7883	7934	7985	8035	8086		
47	8137	8188	8239	8289	8340	8391	8442	8493	8544	8594		
48	8645	8696	8747	8798	8848	8899	8950	9001	9052	9102		
49	9153	9204	9255	9306	9356	9407	9458	9509	9560	9610		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

TO 101000.

N. 85500. L. 931

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8550	931.9661	9712	9763	9814	9864	9915	9966	0017	0067	0118		
51	932.0169	0220	0271	0321	0372	0423	0474	0525	0575	0626		
52	0677	0728	0778	0829	0880	0931	0982	1032	1083	1134		
53	1185	1235	1286	1337	1388	1439	1489	1540	1591	1642		
54	1692	1743	1794	1845	1896	1946	1997	2048	2099	2149		
55	2270	2251	2302	2352	2403	2454	2505	2555	2606	2657		
56	2708	2759	2809	2860	2911	2962	3012	3063	3114	3165		
57	3215	3266	3317	3368	3418	3469	3520	3571	3621	3672		
58	3723	3774	3824	3875	3926	3977	4027	4078	4129	4180	50.7	
59	4230	4281	4332	4382	4433	4484	4535	4585	4636	4687		
8560	4738	4788	4839	4890	4941	4991	5042	5093	5144	5194		
61	5245	5296	5346	5397	5448	5499	5549	5600	5651	5702		
62	5752	5803	5854	5904	5955	6006	6057	6107	6158	6209		
63	6259	6310	6361	6412	6462	6513	6564	6614	6665	6716		
64	6767	6817	6868	6919	6969	7020	7071	7122	7172	7223		
65	7274	7324	7375	7426	7476	7527	7578	7629	7679	7730		
66	7781	7831	7882	7933	7983	8034	8085	8136	8186	8237		
67	8288	8338	8389	8440	8490	8541	8592	8643	8693	8744		
68	8795	8845	8896	8947	8997	9048	9099	9149	9200	9251		
69	9301	9352	9403	9453	9504	9555	9606	9656	9707	9758		
8570	9808	9859	9910	9960	0011	0062	0112	0163	0214	0264		
71	933.0315	0366	0416	0467	0518	0568	0619	0670	0720	0771		
72	0822	0872	0923	0974	1024	1075	1126	1176	1227	1278		
73	1328	1379	1430	1480	1531	1582	1632	1683	1733	1784		
74	1835	1885	1936	1987	2037	2088	2139	2189	2240	2291	50.6	
75	2341	2392	2443	2493	2544	2595	2645	2696	2746	2797		
76	2848	2898	2949	3000	3050	3101	3152	3202	3253	3303		
77	3354	3405	3455	3506	3557	3607	3658	3709	3759	3810		
78	3860	3911	3962	4012	4063	4114	4164	4215	4265	4316		
79	4367	4417	4468	4519	4569	4620	4670	4721	4772	4822		
8580	4873	4923	4974	5025	5075	5126	5177	5227	5278	5328		
81	5379	5430	5480	5531	5581	5632	5683	5733	5784	5834		
82	5885	5936	5986	6037	6088	6138	6189	6239	6290	6341		
83	6391	6442	6492	6543	6594	6644	6695	6745	6796	6846		
84	6897	6948	6998	7049	7099	7150	7201	7251	7302	7352		
85	7403	7454	7504	7555	7605	7656	7707	7757	7808	7858		
86	7909	7959	8010	8061	8111	8162	8212	8263	8313	8364		
87	8415	8465	8516	8566	8617	8668	8718	8769	8819	8870		
88	8920	8971	9021	9072	9123	9173	9224	9274	9325	9375		
89	9426	9477	9527	9578	9628	9679	9729	9780	9831	9881		
8590	9932	9982	0033	0083	0134	0184	0235	0286	0336	0387	50.5	
91	934.0437	0488	0538	0589	0639	0690	0740	0791	0842	0892	50.5	1—5
92	0943	0993	1044	1094	1145	1195	1246	1296	1347	1398		2—10
93	1448	1499	1549	1600	1650	1701	1751	1802	1852	1903		3—15
94	1953	2004	2055	2105	2156	2206	2257	2307	2358	2408		4—20
95	2459	2509	2560	2610	2661	2711	2762	2812	2863	2914		5—25
96	2964	3015	3065	3116	3166	3217	3267	3318	3368	3419		6—30
97	3469	3520	3570	3621	3671	3722	3772	3823	3873	3924		7—35
98	3974	4025	4075	4126	4176	4227	4277	4328	4378	4429		8—40
99	4479	4530	4580	4631	4682	4732	4783	4833	4884	4934		9—45
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 86000. L. 934.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
8600	934.4985	5035	5086	5136	5187	5237	5287	5338	5388	5439		50.5
01	5489	5542	5590	5641	5691	5742	5792	5843	5893	5944		1—5
02	5994	6045	6095	6146	6196	6247	6297	6348	6398	6449		2—10
03	6499	6550	6600	6651	6701	6752	6802	6853	6903	6954		3—15
04	7004	7054	7105	7155	7206	7256	7307	7357	7408	7458		4—20
05	7509	7559	7610	7660	7711	7761	7812	7862	7912	7963		5—25
06	8013	8064	8114	8165	8215	8266	8316	8367	8417	8468		6—30
07	8518	8568	8619	8669	8720	8770	8821	8871	8922	8972		7—35
08	9023	9073	9123	9174	9224	9275	9325	9376	9426	9477	50.4	8—40
09	9527	9578	9628	9678	9729	9779	9830	9880	9931	9981		9—45
8610	935.0032	0082	0132	0183	0233	0284	0334	0385	0435	0485		
11	0536	0586	0637	0687	0738	0788	0838	0889	0939	0990		
12	1040	1091	1141	1191	1242	1292	1343	1393	1444	1494		
13	1544	1595	1645	1696	1746	1797	1847	1897	1948	1998		
14	2049	2099	2150	2200	2250	2301	2351	2402	2452	2502		
15	2553	2603	2654	2704	2754	2805	2855	2906	2956	3006		
16	3057	3107	3158	3208	3259	3309	3359	3410	3460	3511		
17	3561	3611	3662	3712	3763	3813	3863	3914	3964	4015		
18	4065	4115	4166	4216	4266	4317	4367	4418	4468	4518		
19	4569	4619	4670	4720	4770	4821	4871	4922	4972	5022		
8620	5073	5123	5173	5224	5274	5325	5375	5425	5476	5526		
21	5576	5627	5677	5728	5778	5828	5879	5929	5979	6030		
22	6080	6131	6181	6231	6282	6332	6382	6433	6483	6533		
23	6584	6634	6685	6735	6785	6836	6886	6936	6987	7037		
24	7087	7138	7188	7239	7289	7339	7390	7440	7490	7541		
25	7591	7641	7692	7742	7792	7843	7893	7943	7994	8044		
26	8095	8145	8195	8246	8296	8346	8397	8447	8497	8548	50.3	
27	8598	8648	8699	8749	8799	8850	8900	8950	9001	9051		
28	9101	9152	9202	9252	9303	9353	9403	9454	9504	9554		
29	9605	9655	9705	9756	9806	9856	9907	9957	0007	0058		
8630	936.0108	0158	0209	0259	0309	0360	0410	0460	0511	0561		
31	0611	0661	0712	0762	0812	0863	0913	0963	1014	1064		
32	1114	1165	1215	1265	1316	1366	1416	1466	1517	1567		
33	1617	1668	1718	1768	1819	1869	1919	1970	2020	2070		
34	2120	2171	2221	2271	2322	2372	2422	2473	2523	2573		
35	2623	2674	2724	2774	2825	2875	2925	2975	3026	3076		
36	3126	3177	3227	3277	3327	3378	3428	3478	3529	3579		
37	3629	3679	3730	3780	3830	3881	3931	3981	4031	4082		
38	4132	4182	4233	4283	4333	4383	4434	4484	4534	4584		
39	4635	4685	4735	4786	4836	4886	4936	4987	5037	5087		
8640	5137	5188	5238	5288	5338	5389	5439	5489	5540	5590		
41	5640	5690	5741	5791	5841	5891	5942	5992	6042	6092		
42	6143	6193	6243	6293	6344	6394	6444	6494	6545	6595		
43	6645	6695	6746	6796	6846	6896	6947	6997	7047	7097	50.2	
44	7148	7198	7248	7298	7349	7399	7449	7499	7550	7600		
45	7650	7700	7750	7801	7851	7901	7951	8002	8052	8102		
46	8152	8203	8253	8303	8353	8403	8454	8504	8554	8604		
47	8655	8705	8755	8805	8855	8906	8956	9006	9056	9107		
48	9157	9207	9257	9307	9358	9408	9458	9508	9559	9609		
49	9659	9709	9759	9810	9860	9910	9960	0010	0061	0111		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 86500. L. 937

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8650	937.0161	0211	0261	0312	0362	0412	0462	0513	0563	0613		
51	0663	0713	0764	0814	0864	0914	0964	1015	1065	1115		
52	1165	1215	1265	1316	1366	1416	1466	1516	1567	1617		
53	1667	1717	1767	1818	1868	1918	1968	2018	2069	2119		
54	2169	2219	2269	2319	2370	2420	2470	2520	2570	2621		
55	2671	2721	2771	2821	2871	2922	2972	3022	3072	3122		
56	3172	3223	3273	3323	3373	3423	3474	3524	3574	3624		
57	3674	3724	3775	3825	3875	3925	3975	4025	4075	4126		
58	4176	4226	4276	4326	4376	4427	4477	4527	4577	4627		
59	4677	4728	4778	4828	4878	4928	4978	5028	5079	5129		
8650	5179	5229	5279	5329	5380	5430	5480	5530	5580	5630	50.1	
61	5680	5731	5781	5831	5881	5931	5981	6031	6082	6132		
62	6182	6232	6282	6332	6382	6432	6483	6533	6583	6633		
63	6683	6733	6783	6834	6884	6934	6984	7034	7084	7134		
64	7184	7235	7285	7335	7385	7435	7485	7535	7585	7636		
65	7686	7736	7786	7836	7886	7936	7986	8036	8087	8137		
66	8187	8237	8287	8337	8387	8437	8488	8538	8588	8638		
67	8688	8738	8788	8838	8888	8939	8989	9039	9089	9139		
68	9189	9239	9289	9339	9389	9440	9490	9540	9590	9640		
69	9690	9740	9790	9840	9890	9941	9991	1001	1001	1011		
8670	938.0191	0241	0291	0341	0391	0441	0492	0542	0592	0642		
71	0692	0742	0792	0842	0892	0942	0992	1042	1093	1143		
72	1193	1243	1293	1343	1393	1443	1493	1543	1593	1643		
73	1693	1744	1794	1844	1894	1944	1994	2044	2094	2144		
74	2194	2244	2294	2344	2394	2445	2495	2545	2595	2645		
75	2695	2745	2795	2845	2895	2945	2995	3045	3095	3145		
76	3195	3245	3296	3346	3396	3446	3496	3546	3596	3646		
77	3696	3746	3796	3846	3896	3946	3996	4046	4096	4146	50	
78	4196	4247	4297	4347	4397	4447	4497	4547	4597	4647		
79	4697	4747	4797	4847	4897	4947	4997	5047	5097	5147		
8680	5197	5247	5297	5347	5397	5447	5497	5547	5598	5648		50
81	5698	5748	5798	5848	5898	5948	5998	6048	6098	6148		1—5
82	6198	6248	6298	6348	6398	6448	6498	6548	6598	6648		2—10
83	6698	6748	6798	6848	6898	6948	6998	7048	7098	7148		3—15
84	7198	7248	7298	7348	7398	7448	7498	7548	7598	7648		4—20
85	7698	7748	7798	7848	7898	7948	7998	8048	8098	8148		5—25
86	8198	8248	8298	8348	8398	8448	8498	8548	8598	8648		6—30
87	8698	8748	8798	8848	8898	8948	8998	9048	9098	9148		7—35
88	9198	9248	9298	9348	9398	9448	9498	9548	9598	9648		8—40
89	9698	9748	9798	9848	9898	9948	9998	10048	10098	10148		9—45
8690	939.0198	0248	0298	0348	0398	0448	0498	0548	0598	0648		
91	0697	0747	0797	0847	0897	0947	0997	1047	1097	1147		
92	1197	1247	1297	1347	1397	1447	1497	1547	1597	1647		
93	1697	1747	1797	1847	1897	1947	1997	2046	2096	2146		
94	2196	2246	2296	2346	2396	2446	2496	2546	2596	2646		
95	2696	2746	2796	2846	2896	2946	2996	3045	3095	3145	49.9	
96	3195	3245	3295	3345	3395	3445	3495	3545	3595	3645		
97	3695	3745	3795	3845	3894	3944	3994	4044	4094	4144		
98	4194	4244	4294	4344	4394	4444	4494	4544	4593	4643		
99	4693	4743	4793	4843	4893	4943	4993	5043	5093	5143		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 87000. L. 939.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8700	939.5193	5242	5292	5342	5392	5442	5492	5542	5592	5642		50
01	5692	5742	5792	5841	5891	5941	5991	6041	6091	6141		1—5
02	6191	6241	6291	6341	6390	6440	6490	6540	6590	6640		2—10
03	6690	6740	6790	6840	6889	6939	6989	7039	7089	7139		3—15
04	7189	7239	7289	7339	7388	7438	7488	7538	7588	7638		4—20
05	7688	7738	7788	7837	7887	7937	7987	8037	8087	8137		5—25
06	8187	8237	8285	8336	8386	8436	8486	8536	8586	8636		6—30
07	8685	8735	8785	8835	8885	8935	8985	9035	9084	9134		7—35
08	9184	9234	9284	9334	9384	9434	9484	9533	9583	9633		8—40
09	9683	9733	9783	9833	9882	9932	9982	0032	0082	0132		9—45
8710	940.0182	0231	0281	0331	0381	0431	0481	0531	0580	0630		
11	0680	0730	0780	0830	0880	0929	0979	1029	1079	1129		
12	1179	1229	1278	1328	1378	1428	1478	1528	1577	1627	49.8	
13	1677	1727	1777	1827	1877	1926	1976	2026	2076	2126		
14	2176	2225	2275	2325	2375	2425	2475	2524	2574	2624		
15	2674	2724	2774	2823	2873	2923	2973	3023	3073	3122		
16	3172	3222	3272	3322	3372	3421	3471	3521	3571	3621		
17	3670	3720	3770	3820	3870	3920	3969	4019	4069	4119		
18	4169	4218	4268	4318	4368	4418	4468	4517	4567	4617		
19	4667	4717	4766	4816	4866	4916	4966	5015	5065	5115		
8720	5165	5215	5264	5314	5364	5414	5464	5513	5563	5613		
21	5663	5713	5762	5812	5862	5912	5962	6011	6061	6111		
22	6161	6211	6260	6310	6360	6410	6460	6509	6559	6609		
23	6659	6709	6758	6808	6858	6908	6957	7007	7057	7107		
24	7157	7206	7256	7306	7356	7405	7455	7505	7555	7605		
25	7654	7704	7754	7804	7853	7903	7953	8003	8053	8102		
26	8152	8202	8252	8301	8351	8401	8451	8500	8550	8600		
27	8650	8700	8749	8799	8849	8899	8948	8998	9048	9098		
28	9147	9197	9247	9297	9346	9396	9446	9496	9545	9595		
29	9645	9695	9744	9794	9844	9894	9943	9993	0043	0093		
8730	941.0142	0192	0242	0292	0341	0391	0441	0491	0540	0590	49.7	
31	0640	0690	0739	0789	0839	0889	0938	0988	1038	1088		
32	1137	1187	1237	1286	1336	1386	1436	1485	1535	1585		
33	1635	1684	1734	1784	1834	1883	1933	1983	2032	2082		
34	2132	2181	2231	2281	2331	2380	2430	2480	2530	2579		
35	2629	2679	2729	2778	2828	2878	2927	2977	3027	3077		
36	3126	3176	3226	3275	3325	3375	3425	3474	3524	3574		
37	3623	3673	3723	3772	3822	3872	3922	3971	4021	4071		
38	4120	4170	4220	4270	4319	4369	4419	4468	4518	4568		
39	4617	4667	4717	4766	4816	4866	4916	4965	5015	5065		
8740	5114	5164	5214	5263	5313	5363	5412	5462	5512	5562		
41	5611	5661	5711	5760	5810	5860	5909	5959	6009	6058		
42	6108	6158	6207	6257	6307	6356	6406	6456	6505	6555		
43	6605	6654	6714	6754	6803	6853	6903	6952	7002	7052		
44	7101	7151	7201	7250	7300	7350	7399	7449	7499	7548		
45	7598	7648	7697	7747	7797	7847	7896	7946	7995	8045		
46	8095	8144	8194	8244	8293	8343	8393	8442	8492	8542		
47	8591	8641	8691	8740	8790	8840	8889	8939	8988	9038	49.6	
48	9088	9137	9187	9237	9286	9336	9386	9435	9485	9535		
49	9584	9634	9683	9733	9783	9832	9882	9932	9981	0031		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 87500. L. 942

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8750	942.0081	0130	0180	0229	0279	0329	0378	0428	0478	0527		
51	0577	0626	0676	0726	0775	0825	0875	0924	0974	1023		
52	1073	1123	1172	1222	1272	1321	1371	1420	1470	1520		
53	1569	1619	1669	1718	1768	1817	1867	1917	1966	2016		
54	2065	2115	2165	2214	2264	2313	2363	2413	2462	2512		
55	2562	2611	2661	2710	2760	2810	2859	2909	2958	3008		
56	3058	3107	3157	3206	3256	3306	3355	3405	3454	3504		
57	3553	3603	3653	3702	3752	3801	3851	3901	3950	4000		
58	4049	4099	4149	4198	4248	4297	4347	4397	4446	4496		
59	4545	4595	4644	4694	4744	4793	4843	4892	4942	4991		
8760	5041	5091	5140	5190	5239	5289	5339	5388	5438	5487		
61	5537	5586	5636	5686	5735	5785	5834	5884	5933	5983		
62	6032	6082	6132	6181	6231	6280	6330	6379	6429	6479		
63	6528	6578	6627	6677	6726	6776	6825	6875	6925	6974		
64	7024	7073	7123	7172	7222	7271	7321	7371	7420	7470		
65	7519	7569	7618	7668	7717	7767	7816	7866	7916	7965	49.5	
66	8015	8064	8114	8163	8213	8262	8312	8361	8411	8461		
67	8510	8560	8609	8659	8708	8758	8807	8857	8906	8956		
68	9005	9055	9104	9154	9204	9253	9303	9352	9402	9451		
69	9501	9550	9600	9649	9699	9748	9798	9847	9897	9946		
8770	9996	0045	0095	0144	0194	0244	0293	0343	0392	0442		49.5
71	943.0491	0541	0590	0640	0689	0739	0788	0838	0887	0937		1—5
72	0986	1036	1085	1135	1184	1234	1283	1333	1382	1432		2—10
73	1481	1531	1580	1630	1679	1729	1778	1828	1877	1927		3—15
74	1976	2026	2075	2125	2174	2224	2273	2323	2372	2422		4—20
75	2471	2521	2570	2620	2669	2719	2768	2818	2867	2917		5—25
76	2966	3016	3065	3115	3164	3214	3263	3313	3362	3412		6—30
77	3461	3510	3560	3609	3659	3708	3758	3807	3857	3906		7—35
78	3956	4005	4055	4104	4154	4203	4253	4302	4352	4401		8—40
79	4450	4500	4549	4599	4648	4698	4747	4797	4846	4896		9—45
8780	4945	4995	5044	5094	5143	5192	5242	5291	5341	5390		
81	5440	5489	5539	5588	5638	5687	5737	5786	5835	5885		
82	5934	5984	6033	6083	6132	6182	6231	6280	6330	6379		
83	6429	6478	6528	6577	6627	6676	6725	6775	6824	6874	49.4	
84	6923	6973	7022	7072	7121	7170	7220	7269	7319	7368		
85	7418	7467	7517	7566	7615	7665	7714	7764	7813	7863		
86	7912	7961	8011	8060	8110	8159	8209	8258	8307	8357		
87	8406	8456	8505	8555	8604	8653	8703	8752	8802	8851		
88	8900	8950	8999	9049	9098	9148	9197	9246	9296	9345		
89	9395	9444	9493	9543	9592	9642	9691	9741	9790	9839		
8790	9889	9938	9988	0037	0086	0136	0185	0235	0284	0333		
91	944.0383	0432	0482	0531	0580	0630	0679	0729	0778	0827		
92	0877	0926	0976	1025	1074	1124	1173	1223	1272	1321		
93	1371	1420	1470	1519	1568	1618	1667	1716	1766	1815		
94	1865	1914	1963	2013	2062	2112	2161	2210	2260	2309		
95	2358	2408	2457	2507	2556	2605	2655	2704	2753	2803		
96	2852	2902	2951	3000	3050	3099	3148	3198	3247	3297		
97	3346	3395	3445	3494	3543	3593	3642	3691	3741	3790		
98	3840	3889	3938	3988	4037	4086	4136	4185	4234	4284		
99	4333	4383	4432	4481	4531	4580	4629	4679	4728	4777		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N.93000. L. 968

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9300	968.4829	4876	4923	4970	5016	5063	5110	5156	5203	5250		46.5
01	5296	5343	5390	5437	5483	5530	5577	5623	5670	5717		1-5
02	5763	5810	5857	5903	5950	5997	6043	6090	6137	6184		2-9
03	6230	6277	6324	6370	6417	6464	6510	6557	6604	6650		3-14
04	6697	6744	6790	6837	6884	6930	6977	7024	7070	7117		4-19
05	7164	7210	7257	7304	7350	7397	7444	7490	7537	7584		5-23
06	7630	7677	7724	7770	7817	7864	7910	7957	8004	8050		6-28
07	8097	8144	8190	8237	8284	8330	8377	8424	8470	8517		7-33
08	8564	8610	8657	8704	8750	8797	8844	8890	8937	8984		8-37
09	9030	9077	9124	9170	9217	9264	9310	9357	9404	9450		9-42
9310	9497	9543	9590	9637	9683	9730	9777	9823	9870	9917	46.6	
11	9963	0010	0056	0103	0150	0196	0243	0290	0336	0383		
12	0430	0476	0523	0570	0616	0663	0709	0756	0803	0849		
13	0896	0943	0989	1036	1083	1129	1176	1222	1269	1316		
14	1362	1409	1456	1502	1549	1595	1642	1689	1735	1782		
15	1829	1875	1922	1968	2015	2062	2108	2155	2202	2248		
16	2294	2341	2388	2435	2481	2528	2574	2621	2668	2714		
17	2761	2808	2854	2901	2947	2994	3041	3087	3134	3180		
18	3227	3274	3320	3367	3413	3460	3507	3553	3600	3647		
19	3693	3740	3786	3833	3880	3926	3973	4019	4066	4113		
9320	4159	4206	4252	4299	4346	4392	4439	4485	4532	4578		
21	4625	4672	4718	4765	4811	4858	4905	4951	4998	5044		
22	5091	5138	5184	5231	5277	5324	5371	5417	5464	5510		
23	5557	5603	5650	5697	5743	5790	5836	5883	5929	5976		
24	6023	6069	6116	6162	6209	6256	6302	6349	6395	6442		
25	6488	6535	6582	6628	6675	6721	6768	6814	6861	6908		
26	6954	7001	7047	7094	7140	7187	7234	7280	7327	7373		
27	7420	7466	7513	7559	7606	7653	7699	7746	7792	7839		
28	7885	7932	7978	8025	8072	8118	8165	8211	8258	8304		
29	8351	8397	8444	8491	8537	8584	8630	8677	8723	8770		
9330	8816	8863	8910	8956	9003	9049	9096	9142	9189	9235	46.5	
31	9282	9328	9375	9422	9468	9515	9561	9608	9654	9701		
32	9747	9794	9840	9887	9933	9980	0027	0073	0120	0166		
33	970.0213	0259	0306	0352	0399	0445	0492	0538	0585	0631		
34	0678	0724	0771	0818	0864	0911	0957	1004	1050	1097		
35	1143	1190	1236	1283	1329	1376	1422	1469	1515	1562		
36	1608	1655	1701	1748	1794	1841	1888	1934	1981	2027		
37	2074	2120	2167	2213	2260	2306	2353	2399	2446	2492		
38	2539	2585	2632	2678	2725	2772	2818	2864	2911	2957		
39	3004	3050	3097	3143	3190	3236	3283	3329	3376	3422		
9340	3469	3515	3562	3608	3655	3701	3748	3794	3841	3887		
41	3934	3980	4027	4073	4120	4166	4213	4259	4306	4352		
42	4399	4445	4492	4538	4585	4631	4678	4724	4771	4817		
43	4863	4910	4956	5003	5049	5096	5142	5189	5235	5282		
44	5328	5375	5421	5468	5514	5561	5607	5654	5700	5747		
45	5793	5840	5886	5932	5979	6025	6072	6118	6165	6211		
46	6258	6304	6351	6397	6444	6490	6537	6583	6630	6676		
47	6722	6769	6815	6862	6908	6955	7001	7048	7094	7141		
48	7187	7233	7280	7326	7373	7419	7466	7512	7559	7605		
49	7652	7698	7745	7791	7837	7884	7930	7977	8023	8070		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 93500. L. 970

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
9350	8116	8163	8209	8255	8302	8348	8395	8441	8488	8534	46.4	
51	8581	8627	8673	8720	8766	8813	8859	8906	8952	8999		
52	9045	9091	9138	9184	9231	9277	9324	9370	9416	9463		
53	9509	9556	9602	9649	9695	9742	9788	9834	9881	9927		
54	9974	0020	0067	0113	0159	0206	0252	0299	0345	0391		
55	0438	0484	0531	0577	0624	0670	0716	0763	0809	0856		
56	0902	0949	0995	1041	1088	1134	1181	1227	1273	1320		
57	1366	1413	1459	1506	1552	1598	1645	1691	1738	1784		
58	1830	1877	1923	1970	2016	2062	2109	2155	2202	2248		
59	2294	2341	2387	2434	2480	2526	2573	2619	2666	2712		
9360	2758	2805	2851	2898	2944	2990	3037	3083	3130	3176		
61	3223	3269	3315	3362	3408	3454	3501	3547	3594	3640		
62	3686	3733	3779	3826	3872	3918	3965	4011	4057	4104		
63	4150	4197	4243	4289	4336	4382	4429	4475	4521	4568		
64	4614	4660	4707	4753	4800	4846	4892	4939	4985	5031		
65	5078	5124	5171	5217	5263	5310	5356	5402	5449	5495		
66	5542	5588	5634	5681	5727	5773	5820	5866	5912	5959		
67	6005	6052	6098	6144	6191	6237	6283	6330	6376	6422		
68	6469	6515	6562	6608	6654	6701	6747	6793	6840	6886		
69	6932	6979	7025	7071	7118	7164	7211	7257	7303	7349		
9370	7396	7442	7489	7535	7581	7628	7674	7720	7767	7813	46.3	
71	7859	7906	7952	7998	8045	8091	8137	8184	8230	8276		
72	8323	8369	8415	8462	8508	8554	8601	8647	8693	8740		
73	8786	8833	8879	8925	8972	9018	9064	9111	9157	9203		
74	9249	9296	9342	9388	9435	9481	9527	9574	9620	9666		
75	9713	9759	9805	9852	9898	9944	9991	0037	0083	0130		
76	0176	0222	0269	0315	0361	0408	0454	0500	0547	0593		
77	0639	0685	0732	0778	0824	0871	0917	0963	1010	1056		
78	1102	1149	1195	1241	1288	1334	1380	1426	1473	1519		
79	1565	1612	1658	1704	1750	1797	1843	1889	1936	1982		
9380	2028	2075	2121	2167	2214	2260	2307	2353	2399	2445	46	
81	2491	2538	2584	2630	2677	2723	2769	2815	2862	2908	1-5	
82	2954	3001	3047	3093	3139	3186	3232	3278	3325	3371	2-9	
83	3417	3463	3510	3556	3602	3649	3695	3741	3787	3834	3-14	
84	3880	3926	3973	4019	4065	4111	4158	4204	4250	4296	4-18	
85	4343	4389	4435	4482	4528	4574	4620	4667	4713	4759	5-22	
86	4805	4852	4898	4944	4991	5037	5083	5129	5176	5222	6-28	
87	5268	5314	5361	5407	5453	5500	5546	5592	5638	5685	7-32	
88	5731	5777	5823	5870	5916	5962	6008	6055	6101	6147	8-37	
89	6193	6240	6286	6332	6378	6425	6471	6517	6563	6610	9-41	
9390	6656	6702	6748	6795	6841	6887	6933	6980	7026	7072	46.2	
91	7118	7165	7211	7257	7303	7350	7396	7442	7488	7535		
92	7581	7627	7673	7720	7766	7812	7858	7905	7951	7997		
93	8043	8089	8136	8182	8228	8274	8321	8367	8413	8459		
94	8506	8552	8598	8644	8690	8737	8783	8829	8875	8922		
95	8968	9014	9060	9107	9153	9199	9245	9291	9338	9384		
96	9430	9476	9523	9569	9615	9661	9707	9754	9800	9846		
97	9892	9938	9985	0031	0077	0123	0170	0216	0262	0308		
98	0354	0401	0447	0493	0539	0585	0632	0678	0724	0770		
99	0816	0863	0909	0955	1001	1048	1094	1140	1186	1232		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 94000. L. 973.

Logarithms

Vum	0	1	2	3	4	5	6	7	8	9	D	Pts.
400	973.1279	1325	1371	1417	1463	1510	1556	1602	1648	1694		
01	1741	1787	1833	1879	1925	1972	2018	2064	2110	2156		
02	2202	2249	2295	2341	2387	2433	2480	2526	2572	2618		
03	2664	2711	2757	2803	2849	2895	2941	2988	3034	3080		
04	3126	3172	3218	3265	3311	3357	3403	3449	3496	3542		
05	3588	3634	3680	3727	3773	3819	3865	3911	3957	4004		
06	4050	4096	4142	4188	4234	4281	4327	4373	4419	4465		
07	4511	4558	4604	4650	4696	4742	4788	4835	4881	4927		
08	4973	5019	5065	5112	5158	5204	5250	5296	5342	5389		
09	5435	5481	5527	5573	5619	5665	5712	5758	5804	5850		
10	5896	5942	5989	6035	6081	6127	6173	6219	6265	6312		
11	6358	6404	6450	6496	6542	6588	6635	6681	6727	6773	46.1	
12	6819	6865	6911	6958	7004	7050	7096	7142	7188	7234		
13	7281	7327	7373	7419	7465	7511	7557	7604	7650	7696		
14	7742	7788	7834	7880	7926	7973	8019	8065	8111	8157		
15	8203	8249	8295	8342	8388	8434	8480	8526	8572	8618		
16	8664	8711	8757	8803	8849	8895	8941	8987	9033	9080		
17	9126	9172	9218	9264	9310	9356	9402	9449	9495	9541		
18	9587	9633	9679	9725	9771	9817	9864	9910	9956	0002		
19	974.0048	0094	0140	0186	0232	0279	0325	0371	0417	0463		
20	0509	0555	0601	0647	0693	0740	0786	0832	0878	0924		
21	0970	1016	1062	1108	1154	1201	1247	1293	1339	1385		
22	1431	1477	1523	1569	1615	1661	1708	1754	1800	1846		
23	1892	1938	1984	2030	2076	2122	2168	2215	2261	2307		
24	2353	2399	2445	2491	2537	2583	2629	2675	2721	2768		
25	2814	2860	2906	2952	2998	3044	3090	3136	3182	3228		
26	3274	3320	3367	3413	3459	3505	3551	3597	3643	3689		
27	3735	3781	3827	3873	3919	3965	4011	4058	4104	4150		
28	4196	4242	4288	4334	4380	4426	4472	4518	4564	4610		
29	4656	4702	4748	4795	4841	4887	4933	4979	5025	5071		
30	5117	5163	5209	5255	5301	5347	5393	5439	5485	5531		
31	5577	5624	5670	5716	5762	5808	5854	5900	5946	5992	46	
32	6038	6084	6130	6176	6222	6268	6314	6360	6406	6452		
33	6498	6544	6590	6636	6683	6729	6775	6821	6867	6913		
34	6959	7005	7051	7097	7143	7189	7235	7281	7327	7373		
35	7419	7465	7511	7557	7603	7649	7695	7741	7787	7833		
36	7879	7925	7971	8017	8063	8109	8155	8201	8248	8294		
37	8340	8386	8432	8478	8524	8570	8616	8662	8708	8754		
38	8800	8846	8892	8938	8984	9030	9076	9122	9168	9214		
39	9260	9306	9352	9398	9444	9490	9536	9582	9628	9674		
40	9720	9766	9812	9858	9904	9950	9996	0042	0088	0134		46
41	975.0180	0226	0272	0318	0364	0410	0456	0502	0548	0594	1—5	
42	0640	0686	0732	0778	0824	0870	0916	0962	1008	1054	2—9	
43	1100	1146	1192	1238	1284	1330	1376	1422	1468	1514	3—14	
44	1560	1606	1652	1698	1744	1790	1836	1882	1928	1974	4—18	
45	2020	2066	2112	2158	2204	2250	2296	2342	2388	2433	5—23	
46	2479	2525	2571	2617	2663	2709	2755	2801	2847	2893	6—28	
47	2939	2985	3031	3077	3123	3169	3215	3261	3307	3353	7—32	
48	3399	3445	3491	3537	3583	3629	3675	3721	3766	3813	8—37	
49	3858	3904	3950	3996	4042	4088	4134	4180	4226	4272	9—41	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 94500. L. 9751

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9450	975.4318	4364	4410	4456	4502	4548	4594	4640	4686	4732		
51	4778	4824	4870	4915	4961	5007	5053	5099	5145	5191	45.9	
52	5237	5283	5329	5375	5421	5467	5513	5559	5605	5651		
53	5697	5743	5788	5834	5880	5926	5972	6018	6064	6110		
54	6156	6202	6248	6294	6340	6386	6432	6478	6523	6569		
55	6615	6661	6707	6753	6799	6845	6891	6937	6983	7029		
56	7075	7121	7166	7212	7258	7304	7350	7396	7442	7488		
57	7534	7580	7626	7672	7718	7763	7809	7855	7901	7947		
58	7993	8039	8085	8131	8177	8223	8269	8315	8360	8406		
59	8452	8498	8544	8590	8636	8682	8728	8774	8820	8865		
9460	8911	8957	9003	9049	9095	9141	9187	9233	9279	9325		
61	9370	9416	9462	9508	9554	9600	9646	9692	9738	9784		
62	9829	9875	9921	9967	0013	0059	0105	0151	0197	0243		
63	976.0288	0334	0380	0426	0472	0518	0564	0610	0656	0701		
64	0747	0793	0839	0885	0931	0977	1023	1069	1114	1160		
65	1206	1252	1298	1344	1390	1436	1481	1527	1573	1619		
66	1665	1711	1757	1803	1849	1894	1940	1986	2032	2078		
67	2124	2170	2216	2261	2307	2353	2399	2445	2491	2537		
68	2582	2628	2674	2720	2766	2812	2858	2904	2949	2995		
69	3041	3087	3133	3179	3225	3270	3316	3362	3408	3454		
9470	3500	3546	3592	3637	3683	3729	3775	3821	3867	3913		
71	3958	4004	4050	4096	4142	4188	4233	4279	4325	4371		
72	4417	4463	4509	4554	4600	4646	4692	4738	4784	4830	45.8	
73	4875	4921	4967	5013	5059	5105	5150	5196	5242	5288		
74	5334	5380	5425	5471	5517	5563	5609	5655	5701	5746		
75	5792	5838	5884	5930	5976	6021	6067	6113	6159	6205		
76	6251	6296	6342	6388	6434	6480	6525	6571	6617	6663		
77	6709	6755	6800	6846	6892	6938	6984	7030	7075	7121		
78	7167	7213	7259	7305	7350	7396	7442	7488	7534	7579		
79	7625	7671	7717	7763	7808	7854	7900	7946	7992	8038		
9480	8083	8129	8175	8221	8267	8312	8358	8404	8450	8496	45.5	
81	8541	8587	8633	8679	8725	8770	8816	8862	8908	8954	1-5	
82	9000	9045	9091	9137	9183	9229	9274	9320	9366	9412	2-9	
83	9458	9503	9549	9595	9641	9686	9732	9778	9824	9870	3-14	
84	9915	9961	0007	0053	0099	0144	0190	0236	0282	0328	4-18	
85	977.0373	0419	0465	0511	0556	0602	0648	0694	0740	0785	5-23	
86	0831	0877	0923	0969	1014	1060	1106	1152	1197	1243	6-27	
87	1289	1335	1381	1426	1472	1518	1564	1609	1655	1701	7-32	
88	1747	1793	1838	1884	1930	1976	2021	2067	2113	2159	8-36	
89	2204	2250	2296	2342	2388	2433	2479	2525	2571	2616	9-41	
9490	2662	2708	2754	2799	2845	2891	2937	2982	3028	3074		
91	3120	3165	3211	3257	3303	3349	3394	3440	3486	3532		
92	3577	3623	3669	3715	3760	3806	3852	3898	3943	3989		
93	4035	4081	4126	4172	4218	4264	4309	4355	4401	4447	45.7	
94	4492	4538	4584	4630	4675	4721	4767	4812	4858	4904		
95	4950	4995	5041	5087	5133	5178	5224	5270	5316	5361		
96	5407	5453	5499	5544	5590	5636	5681	5727	5773	5819		
97	5864	5910	5956	6002	6047	6093	6139	6184	6230	6276		
98	6322	6367	6413	6459	6505	6550	6596	6642	6687	6733		
99	6779	6825	6870	6916	6962	7007	7053	7099	7145	7190		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

(Num)	0	1	2	3	4	5	6	7	8	9	D	Pts.
9500	977.7236	7282	7327	7373	7419	7465	7510	7556	7602	7647		45.1
01	7693	7739	7785	7830	7876	7922	7967	8013	8059	8105		1.00
02	8150	8196	8242	8287	8333	8379	8424	8470	8516	8562		2.00
03	8607	8653	8699	8744	8790	8836	8881	8927	8973	9019		3.00
04	9064	9110	9156	9201	9247	9293	9338	9384	9430	9476		4.00
05	9521	9567	9613	9658	9704	9750	9795	9841	9887	9932		5.00
06	9978	0024	0069	0115	0161	0207	0252	0298	0344	0389		6.00
07	978.0435	0481	0526	0572	0618	0663	0709	0755	0800	0846		7.00
08	0892	0937	0983	1029	1074	1120	1166	1211	1257	1303		8.00
09	1348	1394	1440	1485	1531	1577	1622	1668	1714	1760		9.00
9510	1805	1851	1897	1942	1988	2033	2079	2125	2170	2216		
11	2262	2307	2353	2399	2444	2490	2536	2581	2627	2673		
12	2718	2764	2810	2855	2901	2947	2992	3038	3084	3129		
13	3175	3221	3266	3312	3358	3403	3449	3495	3540	3586		
14	3631	3677	3723	3768	3814	3860	3905	3951	3997	4042	45.6	
15	4088	4134	4179	4225	4270	4316	4362	4407	4453	4499		
16	4544	4590	4636	4681	4727	4773	4818	4864	4909	4955		
17	5001	5046	5092	5138	5183	5229	5274	5320	5366	5411		
18	5457	5503	5548	5594	5640	5685	5731	5776	5822	5868		
19	5913	5959	6005	6050	6096	6141	6187	6233	6278	6324		
9520	6369	6415	6461	6506	6552	6598	6643	6689	6734	6780		
21	6826	6871	6917	6962	7008	7054	7099	7145	7191	7236		
22	7282	7327	7373	7419	7464	7510	7555	7601	7647	7692		
23	7738	7783	7829	7875	7920	7966	8011	8057	8103	8148		
24	8194	8239	8285	8331	8376	8422	8467	8513	8559	8604		
25	8650	8695	8741	8787	8832	8878	8923	8969	9015	9060		
26	9106	9151	9197	9243	9288	9334	9379	9425	9470	9516		
27	9562	9607	9653	9698	9744	9790	9835	9881	9926	9972		
28	979.0017	0063	0109	0154	0200	0245	0291	0337	0382	0428		
29	0473	0519	0564	0610	0656	0701	0747	0792	0838	0883		
9530	0929	0975	1020	1066	1111	1157	1202	1248	1294	1339		
31	1385	1430	1476	1521	1567	1613	1658	1704	1749	1795		
32	1840	1886	1931	1977	2023	2068	2114	2159	2205	2250		
33	2296	2341	2387	2433	2478	2524	2569	2615	2660	2706		
34	2751	2797	2843	2888	2934	2979	3025	3070	3116	3161	45.5	
35	3207	3253	3298	3344	3389	3435	3480	3526	3571	3617		
36	3662	3708	3754	3799	3845	3890	3936	3981	4027	4072		
37	4118	4163	4209	4254	4300	4346	4391	4437	4482	4528		
38	4573	4619	4664	4710	4755	4801	4846	4892	4937	4983		
39	5028	5074	5120	5165	5211	5256	5302	5347	5393	5438		
9540	5484	5529	5575	5620	5666	5711	5757	5802	5848	5893		
41	5939	5984	6030	6076	6121	6167	6212	6258	6303	6349		
42	6394	6440	6485	6531	6576	6622	6667	6713	6758	6804		
43	6849	6895	6940	6986	7031	7077	7122	7168	7213	7259		
44	7304	7350	7395	7441	7486	7532	7577	7623	7668	7714		
45	7759	7805	7850	7896	7941	7987	8032	8078	8123	8169		
46	8214	8260	8305	8351	8396	8442	8487	8533	8578	8624		
47	8669	8715	8760	8806	8851	8897	8942	8988	9033	9079		
48	9124	9170	9215	9261	9306	9352	9397	9442	9488	9533		
49	9579	9624	9670	9715	9761	9806	9852	9897	9943	9988		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 95500. L. 980

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9550	980.0034	0079	0125	0170	0216	0261	0307	0352	0398	0443		
51	0488	0534	0579	0625	0670	0716	0761	0807	0852	0898		
52	0943	0989	1034	1080	1125	1170	1216	1261	1307	1352		
53	1398	1443	1489	1534	1580	1625	1671	1716	1761	1807		
54	1852	1898	1943	1989	2034	2080	2125	2171	2216	2261		
55	2307	2352	2398	2443	2489	2534	2580	2625	2671	2716	45-4	
56	2761	2807	2852	2898	2943	2989	3034	3080	3125	3170		
57	3216	3261	3307	3352	3398	3443	3489	3534	3579	3624		
58	3670	3716	3761	3807	3852	3897	3943	3988	4034	4079		
59	4125	4170	4215	4261	4306	4352	4397	4443	4488	4533		
9560	4579	4624	4670	4715	4761	4806	4851	4897	4942	4988		
61	5033	5079	5124	5169	5215	5260	5306	5351	5397	5442		
62	5487	5533	5578	5624	5669	5714	5760	5805	5851	5896		
63	5942	5987	6032	6078	6123	6169	6214	6259	6305	6350		
64	6396	6441	6486	6532	6577	6623	6668	6714	6759	6804		
65	6850	6895	6941	6986	7031	7077	7122	7168	7213	7258		
66	7304	7349	7395	7440	7485	7531	7576	7622	7667	7712		
67	7758	7803	7849	7894	7939	7985	8030	8075	8121	8166		
68	8212	8257	8302	8348	8393	8439	8484	8529	8575	8620		
69	8666	8711	8756	8802	8847	8892	8938	8983	9029	9074		
9570	9119	9165	9210	9256	9301	9346	9392	9437	9482	9528		
71	9573	9619	9664	9709	9755	9800	9845	9891	9936	9982		
72	981.0027	0072	0118	0163	0208	0254	0299	0344	0390	0435		
73	0481	0526	0571	0617	0662	0707	0753	0798	0844	0889		
74	0934	0980	1025	1070	1116	1161	1206	1252	1297	1342		
75	1388	1433	1479	1524	1569	1615	1660	1705	1751	1796		
76	1841	1887	1932	1977	2023	2068	2113	2159	2204	2250		
77	2295	2340	2386	2431	2476	2522	2567	2612	2658	2703	45-3	
78	2748	2794	2839	2884	2930	2975	3020	3066	3111	3156		
79	3202	3247	3292	3338	3383	3428	3474	3519	3564	3610		
9580	3655	3700	3746	3791	3836	3882	3927	3972	4018	4063		45
81	4108	4154	4199	4244	4290	4335	4380	4426	4471	4516	1-4	
82	4562	4607	4652	4698	4743	4788	4834	4879	4924	4970	2-9	
83	5015	5060	5106	5151	5196	5241	5287	5332	5377	5423	3-12	
84	5468	5513	5559	5604	5649	5695	5740	5785	5831	5876	4-18	
85	5921	5966	6012	6057	6102	6148	6193	6238	6284	6329	5-22	
86	6374	6420	6465	6510	6555	6601	6646	6691	6737	6782	6-27	
87	6827	6873	6918	6963	7008	7054	7099	7144	7190	7235	7-31	
88	7280	7326	7371	7416	7461	7507	7552	7597	7643	7688	8-36	
89	7733	7778	7824	7869	7914	7960	8005	8050	8095	8141	9-40	
9590	8186	8231	8277	8322	8367	8412	8458	8503	8548	8594		
91	8639	8684	8729	8775	8820	8865	8911	8956	9001	9046		
92	9092	9137	9182	9228	9273	9318	9363	9409	9454	9499		
93	9544	9590	9635	9680	9726	9771	9816	9861	9907	9952		
94	9997	0042	0088	0133	0178	0223	0269	0314	0359	0405		
95	982.0450	0495	0540	0586	0631	0676	0721	0767	0812	0857		
96	0902	0948	0993	1038	1083	1129	1174	1219	1264	1310		
97	1355	1400	1445	1491	1536	1581	1626	1672	1717	1762		
98	1807	1853	1898	1943	1988	2034	2079	2124	2169	2215	45-2	
99	2260	2305	2350	2396	2441	2486	2531	2577	2622	2667		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
9600	82.2712	2758	2803	2848	2893	2939	2984	3029	3074	3119		45
01	3165	3210	3255	3300	3346	3391	3436	3481	3527	3572		1—4
02	3617	3662	3707	3753	3798	3843	3888	3934	3979	4024		2—9
03	4069	4115	4160	4205	4250	4295	4341	4386	4431	4476		3—13
04	4522	4567	4612	4657	4702	4748	4793	4838	4883	4928		4—18
05	4974	5019	5064	5109	5155	5200	5245	5290	5335	5381		5—22
06	5426	5471	5516	5561	5607	5652	5697	5742	5787	5833		6—27
07	5878	5923	5968	6014	6059	6104	6149	6194	6240	6285		7—31
08	6330	6375	6420	6466	6511	6556	6601	6646	6692	6737		8—36
09	6782	6827	6872	6918	6963	7008	7053	7098	7143	7189		9—40
9610	7234	7279	7324	7369	7415	7460	7505	7550	7595	7641		
11	7686	7731	7776	7821	7867	7912	7957	8002	8047	8092		
12	8138	8183	8228	8273	8318	8364	8409	8454	8499	8544		
13	8589	8635	8680	8725	8770	8815	8860	8906	8951	8996		
14	9041	9086	9132	9177	9222	9267	9312	9357	9403	9448		
15	9493	9538	9583	9628	9674	9719	9764	9809	9854	9899		
16	9945	9990	0035	0080	0125	0170	0216	0261	0306	0351		
17	983.0396	0441	0486	0532	0577	0622	0667	0712	0757	0803		
18	0848	8893	0938	0983	1028	1073	1119	1164	1209	1254		
19	1299	1344	1390	1435	1480	1525	1570	1615	1660	1706	45.1	
9620	1751	1796	1841	1886	1931	1976	2022	2067	2112	2157		
21	2202	2247	2292	2338	2383	2428	2473	2518	2563	2608		
22	2654	2699	2744	2789	2834	2879	2924	2969	3015	3060		
23	3105	3150	3195	3240	3285	3331	3376	3421	3466	3511		
24	3556	3601	3646	3692	3737	3782	3827	3872	3917	3962		
25	4007	4053	4098	4143	4188	4233	4278	4323	4368	4413		
26	4459	4504	4549	4594	4639	4684	4729	4774	4819	4865		
27	4910	4955	5000	5045	5090	5135	5180	5225	5271	5316		
28	5361	5406	5451	5496	5541	5586	5631	5677	5722	5767		
29	5812	5857	5902	5947	5992	6037	6082	6128	6173	6218		
9630	6263	6308	6353	6398	6443	6488	6533	6579	6624	6669		
31	6714	6759	6804	6849	6894	6939	6984	7029	7075	7120		
32	7165	7210	7255	7300	7345	7390	7435	7480	7525	7571		
33	7616	7661	7706	7751	7796	7841	7886	7931	7976	8021		
34	8066	8111	8157	8202	8247	8292	8337	8382	8427	8472		
35	8517	8562	8607	8652	8697	8743	8788	8833	8878	8923		
36	8968	9013	9058	9103	9148	9193	9238	9283	9328	9374		
37	9419	9464	9509	9554	9599	9644	9689	9734	9779	9824		
38	9869	9914	9959	0004	0049	0095	0140	0185	0230	0275		
39	984.0320	0365	0410	0455	0500	0545	0590	0635	0680	0725		
9640	0770	0815	0860	0905	0951	0996	1041	1086	1131	1176	45.0	
41	1221	1266	1311	1356	1401	1446	1491	1536	1581	1626		
42	1671	1716	1761	1806	1851	1896	1942	1987	2031	2077		
43	2122	2167	2212	2257	2302	2347	2392	2437	2482	2527		
44	2572	2617	2662	2707	2752	2797	2842	2887	2932	2977		
45	3022	3067	3112	3157	3202	3247	3292	3338	3383	3428		
46	3473	3518	3563	3608	3653	3698	3743	3788	3833	3878		
47	3923	3968	4013	4058	4103	4148	4193	4238	4283	4328		
48	4373	4418	4463	4508	4553	4598	4643	4688	4733	4778		
49	4823	4868	4913	4958	5003	5048	5093	5138	5183	5228		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 96500. L. 984

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
9650	984	5273	5318	5363	5408	5453	5498	5543	5588	5633	5678	
51		5723	5768	5813	5858	5903	5948	5993	6038	6083	6128	
52		6173	6218	6263	6308	6353	6398	6443	6488	6533	6578	
53		6623	6668	6713	6758	6803	6848	6893	6938	6983	7028	
54		7073	7118	7163	7208	7253	7298	7343	7388	7433	7478	
55		7523	7568	7613	7658	7703	7748	7793	7838	7883	7928	
56		7973	8018	8063	8108	8152	8197	8242	8287	8332	8377	
57		8422	8467	8512	8557	8602	8647	8692	8737	8782	8827	
58		8872	8917	8962	9007	9052	9097	9142	9187	9232	9277	
59		9322	9367	9412	9457	9502	9546	9591	9636	9681	9726	
9660		9771	9816	9861	9906	9951	9996	0041	0086	0131	0176	
61	985	0221	0266	0311	0356	0401	0446	0491	0535	0580	0625	
62		0670	0715	0760	0805	0850	0895	0940	0985	1030	1075	44-9
63		1120	1165	1210	1255	1300	1345	1389	1434	1479	1524	
64		1569	1614	1659	1704	1749	1794	1839	1884	1929	1974	
65		2019	2064	2108	2153	2198	2243	2288	2333	2378	2423	
66		2468	2513	2558	2603	2648	2693	2737	2782	2827	2872	
67		2917	2962	3007	3052	3097	3142	3187	3232	3277	3321	
68		3366	3411	3456	3501	3546	3591	3636	3681	3726	3771	
69		3816	3861	3905	3950	3995	4040	4085	4130	4175	4220	
9670		4265	4310	4355	4399	4444	4489	4534	4579	4624	4669	
71		4714	4759	4804	4849	4893	4938	4983	5028	5073	5118	
72		5163	5208	5253	5298	5342	5387	5432	5477	5522	5567	
73		5612	5657	5702	5747	5791	5836	5881	5926	5971	6016	
74		6061	6106	6151	6196	6240	6285	6330	6375	6420	6465	
75		6510	6555	6600	6644	6689	6734	6779	6824	6869	6914	
76		6959	7003	7048	7093	7138	7183	7228	7273	7318	7363	
77		7407	7452	7497	7542	7587	7632	7677	7722	7766	7811	
78		7856	7901	7946	7991	8036	8081	8125	8170	8215	8260	
79		8305	8350	8395	8440	8484	8529	8574	8619	8664	8709	
9680		8753	8798	8843	8888	8933	8978	9023	9068	9112	9157	
81		9202	9247	9292	9337	9382	9426	9471	9516	9561	9606	
82		9651	9696	9740	9785	9830	9875	9920	9965	0010	0054	
83	986	0099	0144	0189	0234	0279	0324	0368	0413	0458	0503	44-8
84		0548	0593	0637	0682	0727	0772	0817	0862	0907	0951	
85		0996	1041	1086	1131	1176	1220	1265	1310	1355	1400	
86		1445	1489	1534	1579	1624	1669	1714	1758	1803	1848	
87		1893	1938	1983	2027	2072	2117	2162	2207	2252	2296	
88		2341	2386	2431	2476	2521	2565	2610	2655	2700	2745	
89		2790	2834	2879	2924	2969	3014	3058	3103	3148	3193	
9690		3238	3283	3327	3372	3417	3462	3507	3551	3596	3641	
91		3686	3731	3776	3820	3865	3910	3955	4000	4044	4089	
92		4134	4179	4224	4268	4313	4358	4403	4448	4493	4537	
93		4582	4627	4672	4717	4761	4806	4851	4896	4941	4985	
94		5030	5075	5120	5165	5209	5254	5299	5344	5389	5433	
95		5478	5523	5568	5613	5657	5702	5747	5792	5836	5881	
96		5926	5971	6016	6060	6105	6150	6195	6240	6284	6329	
97		6374	6419	6464	6508	6553	6598	6643	6687	6732	6777	
98		6822	6867	6911	6956	7001	7046	7090	7135	7180	7225	
99		7270	7314	7359	7404	7449	7493	7538	7583	7628	7673	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 97000. L. 986

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9700	986.7717	7762	7807	7852	7896	7941	7986	8031	8076	8120		
01	8165	8210	8255	8299	8344	8389	8434	8478	8523	8568		
02	8613	8657	8702	8747	8792	8837	8881	8926	8971	9016		
03	9060	9105	9150	9195	9239	9284	9329	9374	9418	9463		
04	9508	9553	9597	9642	9687	9732	9776	9821	9866	9911		
05	9955	0000	0045	0090	0134	0179	0224	0269	0313	0358	44.7	
06	987.0403	0448	0492	0537	0582	0627	0671	0716	0761	0806		
07	0850	0895	0940	0985	1029	1074	1119	1163	1208	1253		
08	1298	1342	1387	1432	1477	1521	1566	1611	1656	1700		
09	1745	1790	1834	1879	1924	1969	2013	2058	2103	2148		
9710	2192	2237	2282	2326	2371	2416	2461	2505	2550	2595	44.5	
11	2640	2684	2729	2774	2818	2863	2908	2953	2997	3042	1—4	
12	3087	3131	3176	3221	3266	3310	3355	3400	3444	3489	2—9	
13	3534	3579	3623	3668	3713	3757	3802	3847	3892	3936	3—13	
14	3981	4026	4070	4115	4160	4205	4249	4294	4339	4383	4—18	
15	4428	4473	4517	4562	4607	4652	4696	4741	4786	4830	5—22	
16	4875	4920	4964	5009	5054	5099	5143	5188	5233	5277	6—27	
17	5322	5367	5411	5456	5501	5545	5590	5635	5680	5724	7—31	
18	5769	5814	5858	5903	5948	5992	6037	6082	6126	6171	8—36	
19	6216	6261	6305	6350	6395	6439	6484	6529	6573	6618	9—40	
9720	6663	6707	6752	6797	6841	6886	6931	6975	7020	7065		
21	7109	7154	7199	7243	7288	7333	7377	7422	7467	7511		
22	7556	7601	7646	7690	7735	7780	7824	7869	7914	7958		
23	8003	8048	8092	8137	8182	8226	8271	8316	8360	8405		
24	8450	8494	8539	8583	8628	8673	8717	8762	8807	8851		
25	8896	8941	8985	9030	9075	9119	9164	9209	9253	9298		
26	9343	9387	9432	9477	9521	9566	9611	9655	9700	9745		
27	9789	9834	9878	9923	9968	0012	0057	0102	0146	0191	44.6	
28	988.0236	0280	0325	0370	0414	0459	0503	0548	0593	0637		
29	0682	0727	0771	0816	0861	0905	0950	0994	1039	1084		
9730	1128	1173	1218	1262	1307	1352	1396	1441	1485	1530		
31	1575	1619	1664	1709	1753	1798	1842	1887	1932	1976		
32	2021	2066	2110	2155	2200	2244	2289	2333	2378	2423		
33	2467	2512	2556	2601	2646	2690	2735	2780	2824	2869		
34	2913	2958	3003	3047	3092	3136	3181	3226	3270	3315		
35	3360	3404	3449	3493	3538	3583	3627	3672	3716	3761		
36	3806	3850	3895	3939	3984	4029	4073	4118	4162	4207		
37	4252	4296	4341	4386	4430	4475	4519	4564	4609	4653		
38	4698	4742	4787	4831	4876	4921	4965	5010	5054	5099		
39	5144	5188	5233	5277	5322	5367	5411	5456	5500	5545		
9740	5590	5634	5679	5723	5768	5813	5857	5902	5946	5991		
41	6035	6080	6125	6169	6214	6258	6303	6348	6392	6437		
42	6481	6526	6570	6615	6660	6704	6749	6793	6838	6882		
43	6927	6972	7016	7061	7105	7150	7194	7239	7284	7328		
44	7373	7417	7462	7506	7551	7596	7640	7685	7729	7774		
45	7818	7863	7908	7952	7997	8041	8086	8130	8175	8220		
46	8264	8309	8353	8398	8442	8487	8531	8576	8621	8665		
47	8710	8754	8799	8843	8888	8932	8977	9022	9066	9111		
48	9155	9200	9244	9289	9333	9378	9423	9467	9512	9556	44.5	
49	9601	9645	9690	9734	9779	9823	9868	9913	9957	0002		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9750	989.0046	0091	0135	0180	0224	0269	0313	0358	0402	0447		
51	0492	0536	0581	0625	0670	0714	0759	0803	0848	0892		
52	0937	0981	1026	1071	1115	1160	1204	1249	1293	1338		
53	1382	1427	1471	1516	1560	1605	1649	1694	1738	1783		
54	1828	1872	1917	1961	2006	2050	2095	2139	2184	2228		
55	2273	2317	2362	2406	2451	2495	2540	2584	2629	2673		
56	2718	2762	2807	2851	2896	2940	2985	3030	3074	3119		
57	3163	3208	3252	3297	3341	3386	3430	3475	3519	3564		
58	3608	3653	3697	3742	3786	3831	3875	3920	3964	4009		
59	4053	4098	4142	4187	4231	4276	4320	4365	4409	4454		
9760	4498	4543	4587	4632	4676	4721	4765	4810	4854	4899		
61	4943	4988	5032	5077	5121	5166	5210	5255	5299	5344		
62	5388	5433	5477	5521	5566	5610	5655	5699	5744	5788		
63	5833	5877	5922	5966	6011	6055	6100	6144	6189	6233		
64	6278	6322	6367	6411	6456	6500	6545	6589	6634	6678		
65	6722	6767	6811	6856	6900	6945	6989	7034	7078	7123		
66	7167	7212	7256	7301	7345	7390	7434	7478	7523	7567		
67	7612	7656	7701	7745	7790	7834	7879	7923	7967	8012		
68	8057	8101	8145	8190	8234	8279	8323	8368	8412	8457		
69	8501	8546	8590	8634	8679	8723	8768	8812	8857	8901		
9770	8946	8990	9035	9079	9123	9168	9212	9257	9301	9346	44.4	
71	9390	9435	9479	9523	9568	9612	9657	9701	9746	9790		
72	9835	9879	9923	9968	0012	0057	0101	0146	0190	0235		
73	9900	0279	0323	0368	0412	0457	0501	0546	0590	0634		
74	0723	0768	0812	0857	0901	0946	0990	1034	1079	1123		
75	1168	1212	1257	1301	1345	1390	1434	1479	1523	1568		
76	1612	1656	1701	1745	1790	1834	1878	1923	1967	2012		
77	2056	2101	2145	2189	2234	2278	2323	2367	2411	2456		
78	2500	2545	2589	2634	2678	2722	2767	2811	2856	2900		
79	2944	2989	3033	3078	3122	3167	3211	3255	3300	3344		
9780	3389	3433	3477	3522	3566	3611	3655	3699	3744	3788		
81	3833	3877	3921	3966	4010	4055	4099	4143	4188	4232		
82	4277	4321	4365	4410	4454	4499	4543	4587	4632	4676		
83	4721	4765	4809	4854	4898	4942	4987	5031	5076	5120		
84	5164	5209	5253	5298	5342	5386	5431	5475	5520	5564		
85	5608	5653	5697	5741	5786	5830	5875	5919	5963	6008		
86	6052	6096	6141	6185	6230	6274	6318	6363	6407	6452		
87	6496	6540	6585	6629	6673	6718	6762	6806	6851	6895		
88	6940	6984	7028	7073	7117	7161	7206	7250	7295	7339		
89	7383	7428	7472	7516	7561	7605	7649	7694	7738	7783		
9790	7827	7871	7916	7960	8004	8049	8093	8137	8182	8226		
91	8271	8315	8359	8403	8448	8492	8537	8581	8625	8670		
92	8714	8758	8803	8847	8891	8936	8980	9025	9069	9113	44.3	
93	9158	9202	9246	9291	9335	9379	9424	9468	9512	9557		
94	9601	9645	9690	9734	9778	9823	9867	9911	9956	0000		
99	0044	0089	0133	0177	0222	0266	0310	0355	0399	0443		
96	0488	0532	0576	0621	0665	0709	0754	0798	0842	0887		
97	0931	0975	1020	1064	1108	1153	1197	1241	1286	1330		
98	1374	1419	1463	1507	1552	1596	1640	1685	1729	1773		
99	1818	1862	1906	1951	1995	2039	2083	2128	2172	2216		
Num	0	1	2	3	4	5	6	7	8	9	D	P

N. 98000. L. 991.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9800	2261	2305	2345	2392	2431	2482	2527	2571	2615	2660		
01	2704	2748	2793	2837	2881	2925	2970	3014	3058	3103		
02	3147	3191	3236	3280	3324	3369	3413	3457	3501	3546		
03	3590	3634	3679	3723	3767	3812	3856	3900	3944	3989		
04	4033	4077	4121	4166	4210	4255	4299	4343	4387	4432		
05	4476	4520	4565	4609	4653	4697	4741	4786	4830	4875		
06	4919	4963	5007	5052	5096	5140	5185	5229	5273	5317		
07	5362	5406	5450	5495	5539	5583	5627	5672	5716	5760		
08	5805	5849	5893	5937	5982	6026	6070	6115	6159	6203		
09	6247	6292	6336	6380	6424	6469	6513	6557	6602	6646		
9810	6690	6734	6779	6823	6867	6911	6956	7000	7044	7088		
11	7133	7177	7221	7266	7310	7354	7398	7443	7487	7531		
12	7575	7620	7664	7708	7752	7797	7841	7885	7929	7974		
13	8018	8062	8107	8151	8195	8239	8284	8328	8372	8416		
14	8461	8505	8549	8593	8638	8682	8726	8770	8815	8859		
15	8903	8947	8992	9036	9080	9124	9169	9213	9257	9301	44-2	
16	9345	9390	9434	9478	9522	9567	9611	9655	9699	9744		
17	9788	9832	9876	9921	9965	0009	0053	0098	0142	0186		
18	992.0230	0275	0319	0363	0407	0451	0496	0540	0584	0628		
19	0673	0717	0761	0805	0850	0894	0938	0982	1026	1071		
9820	1115	1159	1203	1248	1292	1336	1380	1424	1469	1513		
21	1557	1601	1646	1690	1734	1778	1822	1867	1911	1955		
22	1999	2044	2088	2132	2176	2220	2265	2309	2353	2397		
23	2441	2486	2530	2574	2618	2662	2707	2751	2795	2839		
24	2884	2928	2972	3016	3060	3105	3149	3193	3237	3281		
25	3326	3370	3414	3458	3502	3547	3591	3635	3679	3723		
26	3768	3812	3856	3900	3944	3989	4033	4077	4121	4165		
27	4210	4254	4298	4342	4386	4431	4475	4519	4563	4607		
28	4651	4696	4740	4784	4828	4872	4917	4961	5005	5049		
29	5093	5138	5182	5226	5270	5314	5358	5403	5447	5491		
9830	5535	5579	5624	5668	5712	5756	5800	5844	5889	5933		
31	5977	6021	6065	6109	6154	6198	6242	6286	6330	6375		
32	6419	6463	6507	6551	6595	6640	6684	6728	6772	6816		
33	6860	6905	6949	6993	7037	7081	7125	7170	7214	7258		
34	7302	7346	7390	7435	7479	7523	7567	7611	7655	7699		
35	7744	7788	7832	7876	7920	7964	8009	8053	8097	8141		
36	8185	8229	8274	8318	8362	8406	8450	8494	8538	8583		
37	8627	8671	8715	8759	8803	8847	8892	8936	8980	9024	44-1	
38	9068	9112	9156	9201	9245	9289	9333	9377	9421	9465		
39	9510	9554	9598	9642	9686	9730	9774	9819	9863	9907		
9840	9951	9995	0039	0083	0128	0172	0216	0260	0304	0348		
41	993.0392	0436	0481	0525	0569	0613	0657	0701	0745	0789		
42	0834	0878	0922	0966	1010	1054	1098	1142	1187	1231		
43	1275	1319	1363	1407	1451	1495	1540	1584	1628	1672		
44	1716	1760	1804	1848	1893	1937	1981	2025	2069	2113		
45	2157	2201	2245	2290	2334	2378	2422	2466	2510	2554		
46	2598	2642	2687	2731	2775	2819	2863	2907	2951	2995		
47	3035	3083	3128	3172	3216	3260	3304	3348	3392	3436		
48	3480	3524	3569	3613	3657	3701	3745	3789	3833	3877		
49	3921	3965	4010	4054	4098	4142	4186	4230	4274	4318		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10100.

N. 98500. L. 993

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
9850	993	4362	4406	4450	4494	4539	4583	4627	4671	4715	4759	44
51		4803	4847	4891	4935	4979	5024	5068	5112	5156	5200	1-4
52		5244	5288	5332	5376	5420	5464	5508	5552	5597	5641	2-3
53		5685	5729	5773	5817	5861	5905	5949	5993	6037	6081	3-13
54		6125	6170	6214	6258	6302	6346	6390	6434	6478	6522	4-18
55		6566	6610	6654	6698	6742	6787	6831	6875	6919	6963	5-22
56		7007	7051	7095	7139	7183	7227	7271	7315	7359	7403	6-26
57		7447	7492	7536	7580	7624	7668	7712	7756	7800	7844	7-31
58		7888	7932	7976	8020	8064	8108	8152	8196	8240	8285	8-35
59		8329	8373	8417	8461	8505	8549	8593	8637	8681	8725	9-40
9860		8769	8813	8857	8901	8945	8989	9033	9077	9121	9165	44
61		9209	9254	9298	9342	9386	9430	9474	9518	9562	9606	
62		9650	9694	9738	9782	9826	9870	9914	9958	0002	0046	
63	994	0090	0134	0178	0222	0266	0310	0354	0398	0442	0487	
64		0531	0575	0619	0663	0707	0751	0795	0839	0883	0927	
65		0971	1015	1059	1103	1147	1191	1235	1279	1323	1367	
66		1411	1455	1499	1543	1587	1631	1675	1719	1763	1807	
67		1851	1895	1939	1983	2027	2071	2115	2159	2203	2247	
68		2291	2335	2379	2423	2467	2511	2555	2599	2643	2687	
69		2731	2775	2819	2863	2907	2951	2995	3039	3083	3127	
9870		3171	3215	3259	3303	3347	3391	3435	3479	3523	3567	
71		3611	3655	3699	3743	3787	3831	3875	3919	3963	4007	
72		4051	4095	4139	4183	4227	4271	4315	4359	4403	4447	
73		4491	4535	4579	4623	4667	4711	4755	4799	4843	4887	
74		4931	4975	5019	5063	5107	5151	5195	5239	5283	5327	
75		5371	5415	5459	5503	5547	5591	5635	5679	5723	5767	
76		5811	5855	5899	5943	5987	6031	6075	6119	6163	6207	
77		6250	6294	6338	6382	6426	6470	6514	6558	6602	6646	
78		6690	6734	6778	6822	6866	6910	6954	6998	7042	7086	
79		7130	7174	7218	7262	7306	7350	7394	7438	7481	7525	
9880		7569	7613	7657	7701	7745	7789	7833	7877	7921	7965	
81		8009	8053	8097	8141	8185	8229	8273	8317	8361	8404	
82		8448	8492	8536	8580	8624	8668	8712	8756	8800	8844	43.9
83		8888	8932	8976	9020	9064	9108	9152	9195	9239	9283	
84		9327	9371	9415	9459	9503	9547	9591	9635	9679	9723	
85		9767	9811	9855	9899	9942	9986	0030	0074	0118	0162	
86	995	0206	0250	0294	0338	0382	0426	0470	0514	0557	0601	
87		0645	0689	0733	0777	0821	0865	0909	0953	0997	1041	
88		1085	1128	1172	1216	1260	1304	1348	1392	1436	1480	
89		1524	1568	1612	1655	1699	1743	1787	1831	1875	1919	
9890		1963	2007	2051	2095	2139	2182	2226	2270	2314	2358	
91		2402	2446	2490	2534	2578	2621	2665	2709	2753	2797	
92		2841	2885	2929	2973	3017	3061	3104	3148	3192	3236	
93		3280	3324	3368	3412	3456	3500	3543	3587	3631	3675	
94		3719	3763	3807	3851	3895	3938	3982	4026	4070	4114	
95		4158	4202	4246	4290	4333	4377	4421	4465	4509	4553	
96		4597	4641	4685	4728	4772	4816	4860	4904	4948	4992	
97		5036	5080	5123	5167	5211	5255	5299	5343	5387	5431	
98		5474	5518	5562	5606	5650	5694	5738	5782	5826	5869	
99		5913	5957	6001	6045	6089	6133	6176	6220	6264	6308	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Vum	0	1	2	3	4	5	6	7	8	9	D	Pts.
9900	6352	6390	6440	6483	6527	6571	6615	6659	6703	6747		
01	6791	6834	6878	6922	6966	7010	7054	7098	7141	7185		
02	7229	7273	7317	7361	7405	7448	7492	7536	7580	7624		
03	7668	7712	7755	7799	7843	7887	7931	7975	8019	8062		
04	8106	8150	8194	8238	8282	8326	8369	8413	8457	8501	43.8	
05	8545	8589	8632	8676	8720	8764	8808	8852	8895	8939		
06	8983	9027	9071	9115	9159	9202	9246	9290	9334	9378		
07	9422	9465	9509	9553	9597	9641	9685	9728	9772	9816		
08	9860	9904	9948	9991	0035	0079	0123	0167	0211	0254		
09	996.0298	0342	0386	0430	0473	0517	0561	0605	0649	0693		
9910	0736	0780	0824	0868	0912	0956	0999	1043	1087	1131		44
11	1175	1218	1262	1306	1350	1394	1438	1481	1525	1569		1-4
12	1613	1657	1701	1744	1788	1832	1876	1920	1963	2007		2-9
13	2051	2095	2139	2182	2226	2270	2314	2358	2401	2445		3-13
14	2489	2533	2577	2621	2664	2708	2752	2796	2839	2883		4-18
15	2927	2971	3015	3059	3102	3146	3190	3234	3277	3321		5-22
16	3365	3409	3453	3496	3540	3584	3628	3672	3715	3759		6-26
17	3803	3847	3891	3934	3978	4022	4066	4110	4153	4197		7-31
18	4241	4285	4329	4372	4416	4460	4504	4547	4591	4635		8-35
19	4679	4723	4766	4810	4854	4898	4941	4985	5029	5073		9-40
9920	5117	5160	5204	5248	5292	5336	5379	5423	5467	5511		
21	5554	5598	5642	5686	5730	5773	5817	5861	5905	5948		
22	5992	6036	6080	6123	6167	6211	6255	6299	6342	6386		
23	6430	6474	6517	6561	6605	6649	6692	6736	6780	6824		
24	6867	6911	6955	6999	7043	7086	7130	7174	7218	7261		
25	7305	7349	7393	7436	7480	7524	7568	7611	7655	7699		
26	7743	7786	7830	7874	7918	7961	8005	8049	8093	8136		
27	8180	8224	8268	8311	8355	8399	8443	8486	8530	8574	43.7	
28	8618	8661	8705	8749	8793	8836	8880	8924	8968	9011		
29	9055	9099	9143	9186	9230	9274	9317	9361	9405	9449		
9930	9492	9536	9580	9624	9667	9711	9755	9799	9842	9886		
31	9930	9973	0017	0061	0105	0148	0192	0236	0280	0323		
32	997.0367	0411	0454	0498	0542	0586	0629	0673	0717	0761		
33	0804	0848	0892	0935	0979	1023	1067	1110	1154	1198		
34	1241	1285	1329	1373	1416	1460	1504	1547	1591	1635		
35	1679	1722	1766	1810	1853	1897	1941	1985	2028	2072		
36	2116	2159	2203	2247	2291	2334	2378	2422	2465	2509		
37	2553	2597	2640	2684	2728	2771	2815	2859	2902	2946		
38	2990	3034	3077	3121	3165	3208	3252	3296	3339	3383		
39	3427	3471	3514	3558	3602	3645	3689	3733	3776	3820		
9940	3864	3907	3951	3995	4039	4082	4126	4170	4213	4257		
41	4301	4344	4388	4432	4475	4519	4563	4606	4650	4694		
42	4737	4781	4825	4869	4912	4956	5000	5043	5087	5131		
43	5174	5218	5262	5305	5349	5393	5436	5480	5524	5567		
44	5611	5655	5698	5742	5786	5829	5873	5917	5960	6004		
45	6048	6091	6135	6179	6222	6266	6310	6353	6397	6441		
46	6484	6528	6572	6615	6659	6703	6746	6790	6834	6877		
47	6921	6965	7008	7052	7096	7139	7183	7227	7270	7314		
48	7358	7401	7445	7489	7532	7576	7620	7663	7707	7751		
49	7794	7838	7882	7925	7969	8012	8056	8100	8143	8187		
Vum	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 10100.

N. 99500. L. 997

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9950	997.8231	8274	8318	8362	8405	8449	8493	8536	8580	8624	43.0	
51	8667	8711	8754	8798	8842	8885	8929	8973	9016	9060		
52	9104	9147	9191	9235	9278	9322	9365	9409	9453	9496		
53	9540	9584	9627	9671	9714	9758	9802	9845	9889	9933		
54	9976	0020	0064	0107	0151	0195	0238	0282	0325	0369		
55	998.0413	0456	0500	0543	0587	0631	0674	0718	0762	0805		
56	0849	0892	0936	0980	1023	1067	1111	1154	1198	1241		
57	1285	1329	1372	1416	1459	1503	1547	1590	1634	1678		
58	1721	1765	1808	1852	1896	1939	1983	2026	2070	2114		
59	2157	2201	2244	2288	2332	2375	2419	2462	2506	2550		
9960	2593	2637	2681	2724	2768	2811	2855	2899	2942	2986		
61	3029	3073	3117	3160	3204	3247	3291	3335	3378	3422		
62	3465	3509	3552	3596	3640	3683	3727	3770	3814	3858		
63	3901	3945	3988	4032	4076	4119	4163	4206	4250	4294		
64	4337	4381	4424	4468	4511	4555	4599	4642	4686	4729		
65	4773	4817	4860	4904	4947	4991	5034	5078	5122	5165		
66	5209	5252	5296	5339	5383	5427	5470	5514	5557	5601		
67	5645	5688	5732	5775	5819	5862	5906	5950	5993	6037		
68	6080	6124	6167	6211	6255	6298	6342	6385	6429	6472		
69	6516	6559	6603	6647	6690	6734	6777	6821	6864	6908		
9970	6951	6995	7039	7082	7126	7169	7213	7256	7300	7344		
71	7387	7431	7474	7518	7561	7605	7648	7692	7736	7779		
72	7823	7866	7910	7953	7997	8040	8084	8127	8171	8215	43.5	
73	8258	8302	8345	8389	8432	8476	8519	8563	8606	8650		
74	8694	8737	8781	8824	8868	8911	8955	8998	9042	9085		
75	9129	9173	9216	9260	9303	9347	9390	9434	9477	9521		
76	9564	9608	9651	9695	9738	9782	9826	9869	9913	9956		
77	999.0000	0043	0087	0130	0174	0217	0261	0304	0348	0391		
78	0435	0478	0522	0566	0609	0653	0696	0740	0783	0827		
79	0870	0914	0957	1001	1044	1088	1131	1175	1218	1262		
9980	1305	1349	1392	1436	1479	1523	1566	1610	1653	1697	43.5	
81	1740	1784	1828	1871	1915	1958	2002	2045	2089	2132	1-4	
82	2176	2219	2263	2306	2350	2393	2437	2480	2524	2567	2-9	
83	2611	2654	2698	2741	2785	2828	2872	2915	2959	3002	3-13	
84	3046	3089	3133	3176	3220	3263	3307	3350	3394	3437	4-17	
85	3481	3524	3568	3611	3655	3698	3742	3785	3829	3872	5-22	
86	3916	3959	4003	4046	4089	4133	4176	4220	4264	4307	6-26	
87	4350	4394	4437	4481	4524	4568	4611	4655	4698	4742	7-30	
88	4785	4829	4872	4916	4959	5003	5046	5090	5133	5177	8-35	
89	5220	5264	5307	5350	5394	5437	5481	5524	5568	5611	9-39	
9990	5655	5698	5742	5785	5829	5872	5916	5959	6003	6046		
91	6089	6133	6176	6220	6263	6307	6350	6394	6437	6481		
92	6524	6568	6611	6655	6698	6741	6785	6828	6872	6915		
93	6959	7002	7046	7089	7133	7176	7220	7263	7306	7350		
94	7393	7437	7480	7524	7567	7611	7654	7698	7741	7784		
95	7828	7871	7915	7958	8002	8045	8089	8132	8176	8219		
96	8262	8306	8349	8393	8436	8480	8523	8566	8610	8653		
97	8697	8740	8784	8827	8871	8914	8957	9001	9044	9088		
98	9131	9175	9218	9262	9305	9348	9392	9435	9479	9522		
99	9566	9609	9652	9696	9739	9783	9826	9870	9913	9956		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

A TABLE to Convert Sexagesimals into Decimals, & Contra.

	0	12	24	36	48
0.000	.003	.007	.011	.015	
1.017	.02	.023	.027	.03	
2.033	.037	.04	.043	.047	
3.050	.053	.057	.06	.063	
4.067	.07	.073	.077	.08	
5.083	.087	.09	.093	.097	
6.1	.103	.107	.11	.113	
7.117	.12	.123	.127	.13	
8.133	.137	.14	.143	.147	
9.150	.153	.157	.16	.163	
10.167	.17	.173	.177	.18	
11.183	.187	.19	.193	.197	
12.2	.203	.207	.21	.213	
13.217	.22	.223	.227	.23	
14.233	.237	.24	.243	.247	
15.25	.253	.257	.26	.263	
16.267	.27	.273	.277	.28	
17.283	.287	.29	.293	.297	
18.3	.303	.307	.31	.313	
19.317	.32	.323	.327	.33	
20.333	.337	.34	.343	.347	
21.35	.353	.357	.36	.363	
22.367	.37	.373	.377	.38	
23.383	.387	.39	.393	.397	
24.4	.403	.407	.41	.413	
25.417	.42	.423	.427	.43	
26.433	.437	.44	.443	.447	
27.45	.453	.457	.46	.463	
28.467	.47	.473	.477	.48	
29.483	.487	.49	.493	.497	
30.5	.503	.507	.51	.513	
31.517	.52	.523	.527	.53	
32.533	.537	.54	.543	.547	
33.550	.553	.557	.56	.563	
34.567	.57	.573	.577	.58	
35.583	.587	.59	.593	.597	
36.6	.603	.607	.61	.613	
37.617	.62	.623	.627	.63	
38.633	.637	.64	.643	.647	
39.65	.653	.657	.66	.663	
40.667	.67	.673	.677	.68	
41.683	.687	.69	.693	.697	
42.7	.703	.707	.71	.713	
43.717	.72	.723	.727	.73	
44.733	.737	.74	.743	.747	
45.75	.753	.757	.76	.763	
46.767	.77	.773	.777	.78	
47.783	.787	.79	.793	.797	
48.8	.803	.807	.81	.813	
49.817	.82	.823	.827	.83	
50.833	.837	.84	.843	.847	
51.85	.853	.857	.86	.863	
52.867	.87	.873	.877	.88	
53.883	.887	.89	.893	.897	
54.9	.903	.907	.91	.913	
55.917	.92	.923	.927	.93	
56.933	.937	.94	.943	.947	
57.95	.953	.957	.96	.963	
58.967	.97	.973	.977	.98	
59.983	.987	.99	.993	.997	

Num.	0	1	2	3	4	5	6	7	8	9
100000	0000	0000	043	087	130	174	217	261	304	347
01		434	478	521	564	608	651	695	738	782
02		868	912	955	999	042	086	129	172	216
03	0001	303	346	389	433	476	520	563	607	650
04		737	780	824	867	910	954	997	041	084
05	0002	171	214	258	301	345	388	431	475	518
06		605	648	692	735	779	822	865	909	952
07	0003	039	082	126	169	213	256	299	343	386
08		473	516	560	603	646	690	733	777	820
09		907	950	994	037	080	124	167	211	254
100100	0004	341	384	427	471	514	558	601	644	688
11		775	818	861	905	948	991	035	078	122
12	0005	208	252	295	338	382	425	469	512	555
13		642	685	729	772	816	859	902	945	989
14	0006	076	119	163	206	249	293	336	379	423
15		509	553	596	640	683	726	770	813	856
16		943	986	030	073	117	160	203	247	290
17	0007	377	420	463	507	550	593	637	680	724
18		810	854	897	940	984	027	070	114	157
19	0008	244	287	330	374	417	460	504	547	590
100200		677	721	764	807	851	894	937	981	024
21	0009	111	154	197	241	284	327	371	414	457
22		544	587	631	674	717	761	804	847	891
23		977	021	064	107	151	194	237	281	324
24	0010	411	454	497	541	584	627	671	714	757
25		844	887	930	973	017	060	104	147	190
26	0011	277	320	364	407	450	494	537	580	623
27		710	753	797	840	883	927	970	013	057
28	0012	143	187	230	273	316	360	403	446	490
29		576	620	663	706	749	793	836	879	923
100300	0013	009	053	096	139	182	226	269	312	356
31		444	486	529	572	615	659	702	745	789
32		875	918	962	005	048	092	135	178	221
33	0014	308	351	395	438	481	525	568	611	654
34		741	784	827	871	914	957	001	044	087
35	0015	174	217	260	304	347	390	433	477	520
36		606	650	693	736	780	823	866	909	953
37	0016	039	082	126	169	212	256	299	342	385
38		472	515	558	602	645	688	731	775	818
39		904	948	991	034	078	121	164	207	251
100400	0017	337	380	424	467	510	553	597	640	683
41		770	813	856	899	943	986	029	072	116
42	0018	202	245	289	332	375	418	462	505	548
43		635	678	721	764	808	851	894	937	981
44	0019	067	110	153	197	240	283	326	370	413
45		499	543	586	629	672	716	759	802	845
46		932	975	018	061	105	148	191	234	278
47	0020	364	407	450	494	537	580	623	667	710
48		796	839	883	926	969	012	056	099	142
49	0021	228	272	315	358	401	444	488	531	574
Num.	0	1	2	3	4	5	6	7	8	9

The Use of the Table in the Margin explain'd.

TO find the Decimal of a Degree to every Minute and 12'', or of a Minute to every Second and 12'', look the Min. or Second in the first Column, against which, and under 0, 12, 24, 36, or 48, is the Decimal sought; so .09 of a Deg. is 5' 24'', and .09 of a Min. is 5'' 24''.

To find the Log. of the Sine, Tangent, or Secant, to every Second and 12'', proceed thus: Find the Log. of the Deg. and Min. in the following Table.

Num	0	1	2	3	4	5	6	7	8	9
10050	0021	661	704	747	790	833	877	920	963	006
51	0022	093	136	179	222	266	309	352	395	438
52		125	168	211	254	298	341	384	427	470
53		157	200	243	286	330	373	416	459	502
54	0023	189	232	275	318	361	404	447	490	533
55		221	264	307	350	393	436	479	522	565
56	0024	253	296	339	382	425	468	511	554	597
57		285	328	371	414	457	500	543	586	629
58	0025	317	360	403	446	489	532	575	618	661
59		349	392	435	478	521	564	607	650	693
10060		381	424	467	510	553	596	639	682	725
61	0026	413	456	499	542	585	628	671	714	757
62		445	488	531	574	617	660	703	746	789
63	0027	477	520	563	606	649	692	735	778	821
64		509	552	595	638	681	724	767	810	853
65	0028	541	584	627	670	713	756	799	842	885
66		573	616	659	702	745	788	831	874	917
67	0029	605	648	691	734	777	820	863	906	949
68		637	680	723	766	809	852	895	938	981
69		669	712	755	798	841	884	927	970	013
10070	0030	701	744	787	830	873	916	959	002	045
71		733	776	819	862	905	948	991	034	077
72	0031	765	808	851	894	937	980	023	066	109
73		797	840	883	926	969	012	055	098	141
74	0032	829	872	915	958	001	044	087	130	173
75		861	904	947	990	033	076	119	162	205
76		893	936	979	022	065	108	151	194	237
77	0033	925	968	011	054	097	140	183	226	269
78		957	000	043	086	129	172	215	258	301
79	0034	989	032	075	118	161	204	247	290	333
10080		021	064	107	150	193	236	279	322	365
81	0035	053	096	139	182	225	268	311	354	397
82		085	128	171	214	257	300	343	386	429
83		117	160	203	246	289	332	375	418	461
84	0036	149	192	235	278	321	364	407	450	493
85		181	224	267	310	353	396	439	482	525
86	0037	213	256	299	342	385	428	471	514	557
87		245	288	331	374	417	460	503	546	589
88	0038	277	320	363	406	449	492	535	578	621
89		309	352	395	438	481	524	567	610	653
10090		341	384	427	470	513	556	599	642	685
91	0039	373	416	459	502	545	588	631	674	717
92		405	448	491	534	577	620	663	706	749
93	0040	437	480	523	566	609	652	695	738	781
94		469	512	555	598	641	684	727	770	813
95	0041	501	544	587	630	673	716	759	802	845
96		533	576	619	662	705	748	791	834	877
97		565	608	651	694	737	780	823	866	909
98	0042	597	640	683	726	769	812	855	898	941
99		629	672	715	758	801	844	887	930	973
Num.	0	1	2	3	4	5	6	7	8	9

The End of the Table of Logarithms.

T A B L E S

O F

Natural Sines, Tangents, Secants, Vers'd Sines,
And their Logarithms,
To every Minute of the QUADRANT.

against which is plac'd the Difference; which Difference multiply by the Decimal of the Second and 12" given, and add the Product to the Log. before found, their Summ is the Log. sought.

Ex. What is the Log. of the Sine of 1 Deg 45' 5" 24"?

Ans. 8.4852182.

I find in the Table the Sine

of 1 Deg. 45', viz. 305 385.

Log. 8.4848479. Diff. 41153.

Product 3703.77 .09

Sum 8.4852182. 3703.77

Their Summ, viz. 8.4852182

is the Log. sought.

It may be done without the

Table thus, Multiply 41153, the

Diff. by 5", 4, equal to 5" 24"

and divide the Product by 60,

the Quotient will be 3703.77,

as before.

If the Log. be given, take the

nearest Log. that is less, and sub-

tract it from the Log. given,

then divide the Remainder by

the common Diff. the Quotient

is the Decimal of the Second

and Third sought.

Ex. The Log. Sine 8.4852182

is given, What is the Deg. Min.

Second and Third, that belongs

to it? Ans. 1 Deg. 45' (1.53

or .09 the Decimal of) 5" 24".

Log. given 8.4852182.77

1 Deg. 45' Log. 8.4848479

Diff. 41153 3703.77 (.09

The Quotient .09 is the De-

cimal of the Answer, viz.

5" 24".

It may be done without the

Table thus, Multiply the Re-

mainder 3703.77 by 60, and di-

vide the Product by the Diff.

41153, the Quotient will be

5" 24" (equal to 5" 24") as

before.

Note, That the following Ta-

bles are placed in such order,

that the Column of Logarithms

on each side the Differences are

Complements Arithmetical to

each other, and the Column of

Differences in the middle is

common to them both.

N. Sin.			L. Sin.			Diff.			Infin.			Infin.			N. Tan.			L. Tan.			Diff.		
c	o		c	o		c	o		c	o		c	o		c	o		c	o		c	o	
1	2.909	6.4637261	3010300	13.5362739	34377468.259	1	2.909	6.4637261	3010301	13.5362739	34377468.259	1	2.909	6.4637261	3010301	13.5362739	34377468.259	1	2.909	6.4637261	3010301	13.5362739	34377468.259
2	5.818	6.7647561	1760912	13.2352439	17188734.858	2	5.818	6.7647561	1760913	13.2352439	17188734.858	2	5.818	6.7647561	1760913	13.2352439	17188734.858	2	5.818	6.7647561	1760913	13.2352439	17188734.858
3	8.727	6.9408473	249378	13.0591527	8594368.956	3	8.727	6.9408473	249379	13.0591527	8594368.956	3	8.727	6.9408473	249379	13.0591527	8594368.956	3	8.727	6.9408473	249379	13.0591527	8594368.956
4	11.636	7.0657860	969100	12.9342140	6875496.055	4	11.636	7.0657860	969101	12.9342140	6875496.055	4	11.636	7.0657860	969101	12.9342140	6875496.055	4	11.636	7.0657860	969101	12.9342140	6875496.055
5	14.544	7.1626960	791811	12.8373040	5729550.954	5	14.544	7.1626960	791812	12.8373040	5729550.954	5	14.544	7.1626960	791812	12.8373040	5729550.954	5	14.544	7.1626960	791812	12.8373040	5729550.954
6	17.453	7.2418771	669468	12.7581129	4911070.253	6	17.453	7.2418771	669469	12.7581129	4911070.253	6	17.453	7.2418771	669469	12.7581129	4911070.253	6	17.453	7.2418771	669469	12.7581129	4911070.253
7	20.362	7.3088139	579918	12.6911761	4297187.352	7	20.362	7.3088139	579919	12.6911761	4297187.352	7	20.362	7.3088139	579919	12.6911761	4297187.352	7	20.362	7.3088139	579919	12.6911761	4297187.352
8	23.271	7.3668157	457574	12.6331843	3819723.051	8	23.271	7.3668157	457575	12.6331843	3819723.051	8	23.271	7.3668157	457575	12.6331843	3819723.051	8	23.271	7.3668157	457575	12.6331843	3819723.051
9	26.180	7.4179681	377884	12.5820319	3437751.650	9	26.180	7.4179681	377885	12.5820319	3437751.650	9	26.180	7.4179681	377885	12.5820319	3437751.650	9	26.180	7.4179681	377885	12.5820319	3437751.650
10	29.089	7.4637273	3125229.749	12.5362745	3125229.749	10	29.089	7.4637273	3125230.749	12.5362745	3125229.749	10	29.089	7.4637273	3125230.749	12.5362745	3125229.749	10	29.089	7.4637273	3125230.749	12.5362745	3125229.749
11	31.998	7.5051181	2864794.848	12.4948819	2864794.848	11	31.998	7.5051181	2864795.848	12.4948819	2864794.848	11	31.998	7.5051181	2864795.848	12.4948819	2864794.848	11	31.998	7.5051181	2864795.848	12.4948819	2864794.848
12	34.906	7.5429055	2644426.947	12.4570935	2644426.947	12	34.906	7.5429055	2644427.947	12.4570935	2644426.947	12	34.906	7.5429055	2644427.947	12.4570935	2644426.947	12	34.906	7.5429055	2644427.947	12.4570935	2644426.947
13	37.815	7.5776684	2455540.146	12.4223316	2455540.146	13	37.815	7.5776684	2455541.146	12.4223316	2455540.146	13	37.815	7.5776684	2455541.146	12.4223316	2455540.146	13	37.815	7.5776684	2455541.146	12.4223316	2455540.146
14	40.724	7.6098530	2225183.545	12.3901470	2225183.545	14	40.724	7.6098530	2225184.545	12.3901470	2225183.545	14	40.724	7.6098530	2225184.545	12.3901470	2225183.545	14	40.724	7.6098530	2225184.545	12.3901470	2225183.545
15	43.633	7.6398160	2148599.544	12.3601840	2148599.544	15	43.633	7.6398160	2148600.544	12.3601840	2148599.544	15	43.633	7.6398160	2148600.544	12.3601840	2148599.544	15	43.633	7.6398160	2148600.544	12.3601840	2148599.544
16	46.542	7.6678445	2022212.143	12.3321555	2022212.143	16	46.542	7.6678445	2022213.143	12.3321555	2022212.143	16	46.542	7.6678445	2022213.143	12.3321555	2022212.143	16	46.542	7.6678445	2022213.143	12.3321555	2022212.143
17	49.451	7.6941733	1909368.042	12.3058267	1909368.042	17	49.451	7.6941733	1909369.042	12.3058267	1909368.042	17	49.451	7.6941733	1909369.042	12.3058267	1909368.042	17	49.451	7.6941733	1909369.042	12.3058267	1909368.042
18	52.360	7.7185966	1808349.641	12.2810034	1808349.641	18	52.360	7.7185966	1808350.641	12.2810034	1808349.641	18	52.360	7.7185966	1808350.641	12.2810034	1808349.641	18	52.360	7.7185966	1808350.641	12.2810034	1808349.641
19	55.268	7.7424775	1718883.140	12.2575225	1718883.140	19	55.268	7.7424775	1718884.140	12.2575225	1718883.140	19	55.268	7.7424775	1718884.140	12.2575225	1718883.140	19	55.268	7.7424775	1718884.140	12.2575225	1718883.140
20	58.177	7.7647537	1637032.539	12.2352463	1637032.539	20	58.177	7.7647537	1637033.539	12.2352463	1637032.539	20	58.177	7.7647537	1637033.539	12.2352463	1637032.539	20	58.177	7.7647537	1637033.539	12.2352463	1637032.539
21	61.086	7.7859427	1562622.838	12.2140573	1562622.838	21	61.086	7.7859427	1562623.838	12.2140573	1562622.838	21	61.086	7.7859427	1562623.838	12.2140573	1562622.838	21	61.086	7.7859427	1562623.838	12.2140573	1562622.838
22	63.995	7.8061458	1494683.737	12.1938542	1494683.737	22	63.995	7.8061458	1494684.737	12.1938542	1494683.737	22	63.995	7.8061458	1494684.737	12.1938542	1494683.737	22	63.995	7.8061458	1494684.737	12.1938542	1494683.737
23	66.904	7.8245507	1432406.156	12.1745493	1432406.156	23	66.904	7.8245507	1432407.156	12.1745493	1432406.156	23	66.904	7.8245507	1432407.156	12.1745493	1432406.156	23	66.904	7.8245507	1432407.156	12.1745493	1432406.156
24	69.813	7.8439338	1375110.835	12.1560662	1375110.835	24	69.813	7.8439338	1375111.835	12.1560662	1375110.835	24	69.813	7.8439338	1375111.835	12.1560662	1375110.835	24	69.813	7.8439338	1375111.835	12.1560662	1375110.835
25	72.721	7.8616623	1322222.934	12.1383377	1322222.934	25	72.721	7.8616623	1322223.934	12.1383377	1322222.934	25	72.721	7.8616623	1322223.934	12.1383377	1322222.934	25	72.721	7.8616623	1322223.934	12.1383377	1322222.934
26	75.630	7.8789533	1273252.633	12.1213047	1273252.633	26	75.630	7.8789533	1273253.633	12.1213047	1273252.633	26	75.630	7.8789533	1273253.633	12.1213047	1273252.633	26	75.630	7.8789533	1273253.633	12.1213047	1273252.633
27	78.539	7.8950854	122780.332	12.1049146	122780.332	27	78.539	7.8950854	122781.332	12.1049146	122780.332	27	78.539	7.8950854	122781.332	12.1049146	122780.332	27	78.539	7.8950854	122781.332	12.1049146	122780.332
28	81.448	7.9108793	1185444.031	12.0899127	1185444.031	28	81.448	7.9108793	1185445.031	12.0899127	1185444.031	28	81.448	7.9108793	1185445.031	12.0899127	1185444.031	28	81.448	7.9108793	1185445.031	12.0899127	1185444.031
29	84.357	7.9261190	1145930.130	12.0738810	1145930.130	29	84.357	7.9261190	1145931.130	12.0738810	1145930.130	29	84.357	7.9261190	1145931.130	12.0738810	1145930.130	29	84.357	7.9261190	1145931.130	12.0738810	1145930.130
30	87.265	7.9408419	1108965.629	12.0591581	1108965.629	30	87.265	7.9408419	1108966.629	12.0591581	1108965.629	30	87.265	7.9408419	1108966.629	12.0591581	1108965.629	30	87.265	7.9408419	1108966.629	12.0591581	1108965.629
31	90.174	7.9550819	1074311.428	12.0449181	1074311.428	31	90.174	7.9550819	1074312.428	12.0449181	1074311.428	31	90.174	7.9550819	1074312.428	12.0449181	1074311.428	31	90.174	7.9550819	1074312.428	12.0449181	1074311.428
32	93.083	7.9688698	1041797.427	12.0311302	1041797.427	32	93.083	7.9688698	1041798.427	12.0311302	1041797.427	32	93.083	7.9688698	1041798.427	12.0311302	1041797.427	32	93.083	7.9688698	1041798.427	12.0311302	1041797.427
33	95.992	7.9822334	1011118.526	12.0177666	1011118.526	33	95.992	7.9822334	1011119.526	12.0177666	1011118.526	33	95.992	7.9822334	1011119.526	12.0177666	1011118.526	33	95.992	7.9822334	1011119.526	12.0177666	1011118.526
34	98.900	7.9951980	98223.033	12.0048020	98223.033	34	98.900	7.9951980	98224.033	12.0048020	98223.033	34	98.900	7.9951980	98224.033	12.0048020	98223.033	34	98.900	7.9951980	98224.033	12.0048020	98223.033
35	101.809	8.0077867	954947.112	12.9922133	954947.112	35	101.809	8.0077867	954948.112	12.9922133	954947.112	35	101.809	8.0077867	954948.112	12.9922133	954947.112	35	101.809	8.0077867	954948.112	12.9922133	954947.112
36	104.718	8.0202027	929138.692	12.9799793	929138.692	36	104.718	8.0202027	929139.692	12.9799793	929138.692	36	104.718	8.0202027	929139.692	12.9799793	929138.692	36	104.718	8.0202027	929139.692	12.9799793	929138.692
37	107.627	8.0319195	904688.632	11.9680805	904688.632	37	107.627	8.0319195	904689.632	11.9680805	904688.632	37	107.627	8.0319195	904689.632	11.9680805	904688.632	37	107.627	8.0319195	904689.632	11.9680805	904688.632
38	110.535	8.0435009	881492.442	11.9564991	881492.442	38	110.535	8.0435009	881493.442	11.9564991	881492.442	38	110.535	8.0435009	881493.442	11.9564991	881492.442	38	110.535	8.0435009	881493.442	11.9	

Infinit.	Infinit.	60	0 N. Sec.	L. Sec.	D	10000000	10000000	60
13.5362739	34377466.7	59	1 10000.000	10.0000000	0	100000000	100000000	60
13.2352438	7188731.9	58	2 10000.002	10.0000001	1	100000000	9999.999	59
13.0591553	11459153.0	57	3 10000.004	10.0000002	2	100000000	9999.998	58
12.934137	8594363.0	56	4 10000.007	10.0000003	3	100000000	9999.997	57
12.8373036	6875488.7	55	5 10000.011	10.0000005	4	100000000	9999.995	56
12.7581222	5729572.1	54	6 10000.016	10.0000007	5	100000000	9999.993	55
12.6911752	4911060.0	53	7 10000.021	10.0000009	6	100000000	9999.992	54
12.6331831	4297175.7	52	8 10000.027	10.0000012	7	100000000	9999.991	53
12.5820304	3819709.9	51	9 10000.034	10.0000015	8	100000000	9999.990	52
12.5362727	3437737.1	50	10 10000.042	10.0000018	9	100000000	9999.988	51
12.4948797	312513.7	49	11 10000.051	10.0000022	10	100000000	9999.987	50
12.4570909	2864777.3	48	12 10000.061	10.0000026	11	100000000	9999.986	49
12.4223285	2644408.0	47	13 10000.072	10.0000031	12	100000000	9999.985	48
12.3901434	2455519.8	46	14 10000.083	10.0000036	13	100000000	9999.984	47
12.3617799	2291816.6	45	15 10000.095	10.0000041	14	100000000	9999.983	46
12.3321508	2148576.2	44	16 10000.108	10.0000047	15	100000000	9999.982	45
12.3058214	2022187.5	43	17 10000.122	10.0000053	16	100000000	9999.981	44
12.2809974	1909841.9	42	18 10000.137	10.0000060	17	100000000	9999.980	43
12.2557159	1809322.0	41	19 10000.153	10.0000066	18	100000000	9999.979	42
12.2352390	1718854.0	40	20 10000.170	10.0000073	19	100000000	9999.978	41
12.2140492	1637001.9	39	21 10000.187	10.0000081	20	100000000	9999.977	40
12.1938453	1562590.8	38	22 10000.205	10.0000089	21	100000000	9999.976	39
12.1745356	1494650.2	37	23 10000.224	10.0000097	22	100000000	9999.975	38
12.1560556	1432371.2	36	24 10000.244	10.0000106	23	100000000	9999.974	37
12.1383262	1375074.5	35	25 10000.265	10.0000115	24	100000000	9999.973	36
12.1212923	1322185.1	34	26 10000.286	10.0000124	25	100000000	9999.972	35
12.1049012	1273213.4	33	27 10000.308	10.0000134	26	100000000	9999.971	34
12.0895106	1227739.6	32	28 10000.331	10.0000144	27	100000000	9999.970	33
12.0738656	1185401.8	31	29 10000.355	10.0000155	28	100000000	9999.969	32
12.0591416	1145886.5	30	30 10000.380	10.0000165	29	100000000	9999.968	31
12.0440004	1108920.5	29	31 10000.406	10.0000177	30	100000000	9999.967	30
12.0311114	1074264.8	28	32 10000.433	10.0000188	31	100000000	9999.966	29
12.0177466	1041709.4	27	33 10000.461	10.0000200	32	100000000	9999.965	28
12.0047808	1011069.9	26	34 10000.489	10.0000212	33	100000000	9999.964	27
11.9921908	982179.4	25	35 10000.518	10.0000225	34	100000000	9999.963	26
11.9799555	954894.7	24	36 10000.548	10.0000238	35	100000000	9999.962	25
11.9680514	929084.8	23	37 10000.579	10.0000252	36	100000000	9999.961	24
11.9564726	904633.3	22	38 10000.611	10.0000265	37	100000000	9999.960	23
11.9451906	881435.7	21	39 10000.644	10.0000279	38	100000000	9999.959	22
11.9341943	859397.9	20	40 10000.677	10.0000294	39	100000000	9999.958	21
11.9234694	838435.0	19	41 10000.711	10.0000309	40	100000000	9999.957	20
11.9130030	818470.1	18	42 10000.746	10.0000324	41	100000000	9999.956	19
11.9027828	799434.3	17	43 10000.782	10.0000340	42	100000000	9999.955	18
11.8927975	781263.4	16	44 10000.819	10.0000356	43	100000000	9999.954	17
11.8830366	763900.9	15	45 10000.857	10.0000372	44	100000000	9999.953	16
11.8734901	747291.6	14	46 10000.896	10.0000389	45	100000000	9999.952	15
11.8641490	731389.9	13	47 10000.935	10.0000406	46	100000000	9999.951	14
11.8550044	716150.7	12	48 10000.975	10.0000423	47	100000000	9999.950	13
11.8460484	701533.4	11	49 10001.016	10.0000441	48	100000000	9999.949	12
11.8372733	687500.8	10	50 10001.058	10.0000459	49	100000000	9999.948	11
11.8286718	674018.5	9	51 10001.101	10.0000478	50	100000000	9999.947	10
11.8202374	661054.7	8	52 10001.145	10.0000497	51	100000000	9999.946	9
11.8119636	648580.0	7	53 10001.189	10.0000516	52	100000000	9999.945	8
11.8038444	636567.4	6	54 10001.234	10.0000536	53	100000000	9999.944	7
11.7958741	624991.5	5	55 10001.280	10.0000556	54	100000000	9999.943	6
11.7880474	613820.9	4	56 10001.327	10.0000576	55	100000000	9999.942	5
11.7803592	603058.2	3	57 10001.375	10.0000597	56	100000000	9999.941	4
11.7728047	592658.7	2	58 10001.424	10.0000618	57	100000000	9999.940	3
11.7653792	582611.7	1	59 10001.473	10.0000640	58	100000000	9999.939	2
11.7580785	572899.6	0	60 10001.523	10.0000662	59	100000000	9999.938	1
L. Tan.	N. Tan.	89			D	L. Sin.	N. Sin.	89

N. Sin.	L. Sin.	Diff.	N. Ta.	L. Tan.	Diff.
174.524	8.2418553	71779	174.551	8.2419215	71800
177.432	8.2490332	70611	177.460	8.2491015	70634
180.341	8.2560943	69481	180.370	8.2561649	69504
183.249	8.2630424	68386	183.280	8.2631153	68410
186.158	8.2698810	67326	186.190	8.2699612	67349
189.065	8.2756136	66298	189.100	8.2766963	66322
191.974	8.2813434	65300	192.010	8.2832344	65325
194.883	8.2870734	64333	194.920	8.2898559	64358
197.791	8.2928067	63393	197.830	8.2962917	63418
200.699	8.3025460	62431	200.740	8.3026335	62457
203.608	8.3087941	61595	203.650	8.3088842	61620
206.516	8.3149536	60733	206.560	8.3150462	60759
209.424	8.3210269	59894	209.470	8.3211221	59922
212.332	8.3270163	59080	212.380	8.3271143	59106
215.241	8.3329243	58286	215.291	8.3332029	58314
218.149	8.3387629	57514	218.201	8.3388563	57542
221.057	8.3445304	56762	221.111	8.3446105	56790
223.965	8.3502180	56030	224.021	8.3502895	56058
226.873	8.3558735	55315	226.931	8.3558953	55344
229.781	8.3615150	54619	229.842	8.3614297	54648
232.689	8.3671793	53941	232.753	8.3668945	53970
235.598	8.3728170	53278	235.663	8.3722915	53308
238.506	8.3774988	52632	238.574	8.3776223	52663
241.414	8.3822760	52002	241.484	8.3828886	52032
244.322	8.3870622	51386	244.395	8.3880918	51418
247.230	8.3918008	50785	247.305	8.3932336	50816
250.138	8.3965193	50197	250.216	8.3983152	50319
253.046	8.4012190	49624	253.127	8.4033381	49856
255.954	8.4058161	49062	256.038	8.4083037	49409
258.862	8.4104076	48514	258.948	8.4132131	48957
261.769	8.4149710	47978	261.859	8.4180679	48547
264.677	8.4227168	47453	264.770	8.4228690	48081
267.585	8.4274621	46940	267.681	8.4276176	47486
270.493	8.4321561	46438	270.592	8.4323150	46974
273.401	8.4367999	45945	273.503	8.4369622	46472
276.309	8.4413944	45465	276.414	8.4415603	45981
279.216	8.4459409	44993	279.325	8.4461103	45500
282.124	8.4504402	44532	282.236	8.4506131	45028
285.032	8.4548934	44079	285.148	8.4550699	44568
287.940	8.4593013	43636	288.059	8.4594814	44115
290.847	8.4636649	43201	290.970	8.4638486	43672
293.755	8.4679850	42776	293.882	8.4681725	43239
296.662	8.4722626	42358	296.793	8.4724538	42813
299.570	8.4764981	41948	299.705	8.4766933	42395
302.478	8.4806932	41547	302.616	8.4808920	41987
305.385	8.4848479	41153	305.528	8.4850505	41585
308.293	8.4889632	40766	308.439	8.4891696	41191
311.200	8.4930398	40386	311.351	8.4932502	40806
314.108	8.4970784	40014	314.263	8.4972928	40426
317.015	8.5010798	39649	317.174	8.5012982	40054
319.922	8.5050447	39289	320.086	8.5052671	39689
322.830	8.5089736	38937	322.998	8.5092001	39330
325.737	8.5128673	38591	325.910	8.5130978	38977
328.644	8.5167264	38250	328.822	8.5169610	38633
331.552	8.5205514	37916	331.734	8.5207902	38292
334.459	8.5243470	37587	334.646	8.5245860	37958
337.366	8.5281017	37264	337.558	8.5283490	37630
340.273	8.5318228	36947	340.471	8.5320797	37307
343.181	8.5355128	36635	343.383	8.5357787	36990
346.088	8.5391863	36329	346.295	8.5394466	36679
348.995	8.5428192		349.208	8.5430838	36372
		Diff.			Diff.
		L. Sec.			N. Sec.

			N. Sec.	L. Sec.	D			
11.7580785	572899.62	60	0	10001.523	10.0000662	22	9.9999338	9998.477
11.7508985	563505.90	59	1	10001.574	10.0000684	22	9.9999316	9998.446
11.7438351	554415.17	58	2	10001.626	10.0000706	23	9.9999294	9998.374
11.7368847	54513.00	57	3	10001.679	10.0000729	23	9.9999271	9998.321
11.7300437	537085.87	56	4	10001.733	10.0000753	24	9.9999247	9998.207
11.7233088	528821.09	55	5	10001.788	10.0000776	24	9.9999224	9998.212
11.7166766	520806.73	54	6	1001.843	10.0000800	25	9.9999200	9998.157
11.7101441	513031.57	53	7	10001.899	10.0000825	25	9.9999175	9998.101
11.7037083	505485.06	52	8	10001.956	10.0000850	25	9.9999150	9998.044
11.6973665	498157.26	51	9	10002.014	10.0000875	25	9.9999125	9997.986
11.6911158	491038.81	50	10	10002.073	10.0000900	25	9.9999100	9997.927
11.6849538	484120.84	49	11	10002.133	10.0000926	26	9.9999074	9997.867
11.6788779	477395.01	48	12	10002.194	10.0000953	27	9.9999047	9997.806
11.6728857	470853.43	47	13	10002.255	10.0000979	26	9.9999021	9997.745
11.6669751	464488.62	46	14	10002.317	10.0001006	27	9.9998994	9997.683
11.6611437	458293.51	45	15	10002.380	10.0001034	28	9.9998966	9997.620
11.6553895	452261.41	44	16	10002.444	10.0001061	28	9.9998939	9997.556
11.6497105	446385.96	43	17	10002.509	10.0001089	28	9.9998911	9997.491
11.6441047	440661.13	42	18	10002.575	10.0001118	29	9.9998882	9997.425
11.6385703	435081.22	41	19	10002.641	10.0001147	29	9.9998853	9997.359
11.6331055	429640.77	40	20	10002.708	10.0001176	29	9.9998824	9997.292
11.6277085	424334.64	39	21	10002.776	10.0001206	30	9.9998794	9997.224
11.6223777	419157.90	38	22	10002.845	10.0001236	30	9.9998764	9997.155
11.6171144	414105.88	37	23	10002.915	10.0001266	30	9.9998734	9997.085
11.6119082	409174.12	36	24	10002.986	10.0001297	31	9.9998703	9997.014
11.6067664	404358.37	35	25	10003.058	10.0001328	31	9.9998672	9996.943
11.6016848	399654.60	34	26	10003.130	10.0001359	31	9.9998641	9996.871
11.5966619	395058.95	33	27	10003.203	10.0001391	32	9.9998609	9996.798
11.5916963	390567.71	32	28	10003.277	10.0001423	32	9.9998577	9996.724
11.5867868	386177.38	31	29	10003.352	10.0001456	32	9.9998544	9996.649
11.5819321	381884.59	30	30	10003.428	10.0001488	33	9.9998512	9996.573
11.5771310	377686.13	29	31	10003.505	10.0001522	34	9.9998478	9996.496
11.5723824	373578.92	28	32	10003.582	10.0001555	33	9.9998445	9996.419
11.5676850	369560.01	27	33	10003.660	10.0001589	34	9.9998411	9996.341
11.5630378	365626.19	26	34	10003.739	10.0001624	35	9.9998376	9996.262
11.5584397	361775.96	25	35	10003.819	10.0001658	36	9.9998342	9996.182
11.5538897	358005.53	24	36	10003.900	10.0001694	37	9.9998306	9996.101
11.5493869	354312.82	23	37	10003.982	10.0001729	35	9.9998271	9996.019
11.5449301	350695.46	22	38	10004.065	10.0001765	36	9.9998235	9995.936
11.5405186	347151.15	21	39	10004.148	10.0001801	36	9.9998199	9995.853
11.5361514	343677.71	20	40	10004.232	10.0001838	37	9.9998162	9995.769
11.5318275	340273.03	19	41	10004.317	10.0001875	37	9.9998125	9995.684
11.5275462	336935.09	18	42	10004.403	10.0001912	37	9.9998088	9995.598
11.5233067	333661.94	17	43	10004.490	10.0001950	38	9.9998050	9995.511
11.5191080	330451.73	16	44	10004.578	10.0001988	38	9.9998012	9995.424
11.5149495	327302.64	15	45	10004.667	10.0002026	39	9.9997974	9995.336
11.5108304	324212.95	14	46	10004.756	10.0002065	39	9.9997935	9995.247
11.5067498	321180.99	13	47	10004.846	10.0002104	40	9.9997896	9995.157
11.5027072	318205.16	12	48	10004.937	10.0002144	40	9.9997856	9995.066
11.4987018	315283.92	11	49	10005.029	10.0002183	41	9.9997817	9994.974
11.4947329	312415.77	10	50	10005.122	10.0002224	40	9.9997776	9994.881
11.4907999	309594.28	9	51	10005.215	10.0002264	41	9.9997736	9994.788
11.4869022	306833.07	8	52	10005.309	10.0002305	42	9.9997695	9994.694
11.4830309	304115.80	7	53	10005.405	10.0002347	41	9.9997653	9994.599
11.4792098	301446.19	6	54	10005.501	10.0002388	42	9.9997612	9994.503
11.4754140	298822.99	5	55	10005.598	10.0002430	43	9.9997570	9994.406
11.4716150	296244.99	4	56	10005.696	10.0002473	43	9.9997527	9994.308
11.4679203	293711.06	3	57	10005.795	10.0002516	43	9.9997484	9994.209
11.4642213	291220.05	2	58	10005.894	10.0002559	43	9.9997441	9994.109
11.4605534	288770.89	1	59	10005.994	10.0002602	44	9.9997398	9994.009
11.4569162	286362.53	0	60	10006.095	10.0002646	44	9.9997354	9993.903
L. Tan N.Tan.188			D L. Sin. N.Sin.188					

N. Sir.	L. Sin.	Diff.			2	N. Ta	L. Tan.	Diff.
348.995	8.5428192	36026	1.4571808	286537.08	60	349.208	8.5430838	36071
351.902	8.5464218	35730	1.4535782	284169.97	59	352.120	8.5466909	35774
354.809	8.5499948	35438	1.4500052	281841.68	58	355.033	8.5502683	35483
357.716	8.5535386	35150	1.4464614	279551.25	57	357.945	8.5538166	35196
360.623	8.5570536	34868	1.4429464	277297.77	56	360.858	8.5573362	34914
363.530	8.5605404	34590	1.4394596	275080.35	55	363.771	8.5608276	34636
366.437	8.5639994	34316	1.4360006	272898.14	54	366.683	8.5642912	34363
369.344	8.5674310	34047	1.4325690	270750.30	53	369.596	8.5677275	34093
372.251	8.5708357	33782	1.4291643	268636.03	52	372.509	8.5711358	33829
375.158	8.5742139	33521	1.4257861	266554.55	51	375.422	8.5745197	33569
378.065	8.5775660	33263	1.4224340	264505.10	50	378.335	8.5778766	33311
380.971	8.5808923	33010	1.4191077	262486.94	49	381.248	8.5812077	33059
383.878	8.5841933	32761	1.4158067	260499.37	48	384.161	8.5845136	32809
386.785	8.5874694	32515	1.4125306	258541.69	47	387.074	8.5877945	32564
389.691	8.5907209	32274	1.4092791	256613.24	46	389.988	8.5910509	32323
392.598	8.5939483	32034	1.4060517	254713.37	45	392.901	8.5942832	32085
395.505	8.5971517	31800	1.4028483	252841.44	44	395.814	8.5974917	31850
398.411	8.6003317	31569	1.3996683	250996.85	43	398.728	8.6006767	31619
401.318	8.6034886	31340	1.3965114	249179.00	42	401.641	8.6038386	31391
404.224	8.6066226	31115	1.3933774	247387.31	41	404.555	8.6069777	31166
407.131	8.6097441	30894	1.3902659	245621.23	40	407.469	8.6100943	30946
410.037	8.6128235	30675	1.3871765	243880.20	39	410.383	8.6131889	30727
412.944	8.6158910	30459	1.3841090	242163.70	38	413.296	8.6162616	30511
415.850	8.6189369	30247	1.3810631	240471.21	37	416.210	8.6193127	30290
418.757	8.6219616	30037	1.3780384	238802.24	36	419.124	8.6223427	30071
421.663	8.6249653	30037	1.3750347	237156.30	35	422.038	8.6253518	29854
424.569	8.6279484	29831	1.3720516	235532.90	34	424.952	8.6283402	29638
427.475	8.6309111	29627	1.3690889	233931.61	33	427.866	8.6313083	29421
430.382	8.6338537	29426	1.3661463	232351.96	32	430.781	8.6342563	29206
433.288	8.6367764	29227	1.3632236	230793.51	31	433.695	8.6371845	28992
436.194	8.6396796	29033	1.3603204	229255.86	30	436.609	8.6400931	28780
439.100	8.6425624	28838	1.3574366	227738.57	29	439.524	8.6429825	28569
442.006	8.6454282	28648	1.3545718	226241.26	28	442.438	8.6458528	28359
444.912	8.6482742	28460	1.3517258	224763.52	27	445.353	8.6487044	28151
447.818	8.6511016	28274	1.3488984	223304.99	26	448.268	8.6515375	27944
450.724	8.6539107	28091	1.3460893	221865.28	25	451.182	8.6543522	27738
453.630	8.6567017	27910	1.3432983	220444.03	24	454.097	8.6571490	27533
456.536	8.6594748	27731	1.3405252	219040.90	23	457.012	8.6599279	27329
459.442	8.6622303	27555	1.3377697	217655.53	22	459.927	8.6626891	27126
462.347	8.6649684	27381	1.3350316	216287.59	21	462.842	8.6654331	26924
465.253	8.6676893	27209	1.3323107	214936.76	20	465.757	8.6681598	26723
468.159	8.6703932	27039	1.3296068	213602.72	19	468.673	8.6708697	26523
471.064	8.6730804	26872	1.3269196	212285.15	18	471.588	8.6735628	26324
473.970	8.6757510	26706	1.3242490	210983.75	17	474.503	8.6762393	26126
476.876	8.6784052	26541	1.3215948	209698.24	16	477.419	8.6788996	25929
479.781	8.6810433	26378	1.3189567	208428.30	15	480.334	8.6815437	25733
482.687	8.6836654	26214	1.3163346	207173.68	14	483.250	8.6841719	25538
485.592	8.6862718	26051	1.3137282	205934.09	13	486.166	8.6867844	25344
488.498	8.6888625	25890	1.3111375	204709.25	12	489.082	8.6893813	25151
491.403	8.6914379	25734	1.3085621	203498.92	11	491.997	8.6919629	24959
494.308	8.6939980	25581	1.3060020	202302.84	10	494.913	8.6945292	24768
497.214	8.6965431	25431	1.3034569	201120.75	9	497.829	8.6970806	24578
500.119	8.6990734	25284	1.3009266	199952.41	8	500.745	8.6996172	24389
503.024	8.7015889	25140	1.2984111	198797.58	7	503.662	8.7021390	24201
505.929	8.7040899	25000	1.2959101	197656.04	6	506.578	8.7046465	24014
508.835	8.7065766	24867	1.2934234	196527.54	5	509.495	8.7071395	23828
511.740	8.7090490	24734	1.2909510	195411.87	4	512.411	8.7096185	23643
514.645	8.7115075	24604	1.2884925	194308.82	3	515.328	8.7120834	23459
517.550	8.7139520	24475	1.2860480	193218.16	2	518.244	8.7145345	23276
520.455	8.7163829	24349	1.2836171	192139.70	1	521.161	8.7169719	23094
523.360	8.7188002	24224	1.2811998	191073.23	0	524.078	8.7193958	22913
		Diff.	L. Sec	N. Sec.	57			Diff.

			N. Sec.	L. Sec.	D		
11.4565162	286362.53	0	0 10006.095	10.0002646	45	3.9997354	9993.928 10
11.453309	283293.97	59	1 10005.197	10.0002691	45	3.9997309	9993.806 59
11.4497317	281664.22	58	2 10005.300	10.0002735	45	3.9997265	9993.703 58
11.4461834	279372.33	57	3 10006.404	10.0002780	45	3.9997220	9993.599 57
11.4426638	277117.40	56	4 10006.509	10.0002826	45	3.9997174	9993.495 56
11.4391724	274898.53	55	5 100 6.615	10.0002872	45	3.9997128	9993.390 55
11.4357088	272714.86	54	6 1006.721	10.0002918	45	3.9997082	9993.284 54
11.4322725	270565.57	53	7 1006.828	10.0002954	45	3.9997036	9993.177 53
11.4288632	268449.84	52	8 1006.936	10.0003011	45	3.9996989	9993.069 52
11.4254803	266366.90	51	9 1007 045	10.0003058	45	3.9996942	9992.960 51
11.4221234	264316.00	50	10 1007.155	10.0003106	45	3.9996894	9992.851 50
11.4187923	262296.38	49	11 1007.266	10.0003154	45	3.9996846	9992.740 49
11.4154854	260307.36	48	12 1007.377	10.0003202	45	3.9996798	9992.629 48
11.4122055	258348.23	47	13 1007.489	10.0003251	45	3.9996749	9992.517 47
11.4089491	256418.32	46	14 1007 602	10.0003300	45	3.9996700	9992.404 46
11.4057168	254517.00	45	15 1007.716	10.0003350	45	3.9996650	9992.290 45
11.4025083	252643.61	44	16 1007.831	10.0003399	45	3.9996601	9992.175 44
11.3993233	250797.57	43	17 1007.947	10.0003450	45	3.9996551	9992.060 43
11.3961614	248978.26	42	18 1008.063	10.0003500	45	3.9996500	9991.944 42
11.3930223	247 85.12	41	19 1008.180	10.0003551	45	3.9996449	9991.827 41
11.3899057	245417.58	40	20 1008.298	10.0003602	45	3.9996398	9991.709 40
11.3868111	243975.09	39	21 1008.417	10.0003654	45	3.9996345	9991.590 39
11.3837384	241977.14	38	22 1008.537	10.0003706	45	3.9996294	9991.470 38
11.3806873	240063.20	37	23 1008.658	10.0003758	45	3.9996242	9991.349 37
11.3776573	238592.77	36	24 1008.780	10.0003811	45	3.9996189	9991.228 36
11.3746482	236945.37	35	25 1008.902	10.0003864	45	3.9996136	9991.106 35
11.3716598	235320.52	34	26 1009.025	10.0003918	45	3.9996082	9990.983 34
11.3686917	233717.77	33	27 1009.149	10.0003972	45	3.9996028	9990.859 33
11.3657437	232136.66	32	28 1009.274	10.0004026	45	3.9995974	9990.734 32
11.3628155	230576.77	31	29 1009.400	10.0004081	45	3.9995919	9990.608 31
11.3599069	229037.65	30	30 1009.527	10.0004135	45	3.9995865	9990.482 30
11.3570175	227518.92	29	31 1009.655	10.0004191	45	3.9995809	9990.355 29
11.3541472	226020.15	28	32 100 9.783	10.0004247	45	3.9995753	9990.227 28
11.3512956	224540.96	27	33 1009.912	10.0004303	45	3.9995697	9990.098 27
11.3484625	223080.97	26	34 1010.042	10.0004359	45	3.9995641	9989.968 26
11.3456478	221639.80	25	35 1010.173	10.0004416	45	3.9995584	9989.837 25
11.3428510	220217.10	24	36 1010.305	10.0004473	45	3.9995527	9989.705 24
11.3400721	218812.51	23	37 1010.438	10.0004531	45	3.9995469	9989.573 23
11.3373109	217425.69	22	38 1010.571	10.0004589	45	3.9995411	9989.440 22
11.3345659	216056.30	21	39 1010.705	10.0004647	45	3.9995353	9989.306 21
11.3318402	214704.01	20	40 1010.840	10.0004705	45	3.9995295	9989.171 20
11.3291303	213358.51	19	41 1010.976	10.0004764	45	3.9995236	9989.035 19
11.3264372	212049.49	18	42 1011.113	10.0004824	45	3.9995176	9988.898 18
11.3237607	210746.64	17	43 1011.251	10.0004884	45	3.9995116	9988.761 17
11.3211004	209459.66	16	44 1011.390	10.0004944	45	3.9995056	9988.623 16
11.3184563	208183.28	15	45 1011.530	10.0005004	45	3.9994996	9988.484 15
11.3158281	206932.20	14	46 1011.670	10.0005065	45	3.9994935	9988.344 14
11.3132156	205691.15	13	47 1011.811	10.0005126	45	3.9994874	9988.203 13
11.3106187	204464.86	12	48 1011.953	10.0005188	45	3.9994812	9988.061 12
11.3080371	203253.07	11	49 1012.096	10.0005250	45	3.9994750	9987.918 11
11.3054708	202055.53	10	50 1012.240	10.0005312	45	3.9994688	9987.775 10
11.3029194	200871.99	9	51 1012.385	10.0005375	45	3.9994625	9987.631 9
11.3003826	199702.19	8	52 1012.530	10.0005438	45	3.9994562	9987.486 8
11.2978610	198545.91	7	53 1012.676	10.0005502	45	3.9994498	9987.340 7
11.2953535	197402.91	6	54 1012.823	10.0005565	45	3.9994435	9987.193 6
11.2928605	196272.96	5	55 1012.971	10.0005630	45	3.9994370	9987.045 5
11.2903815	195155.84	4	56 1013.120	10.0005694	45	3.9994306	9986.897 4
11.2879166	194051.33	3	57 1013.270	10.0005759	45	3.9994241	9986.748 3
11.2854655	192959.22	2	58 1013.420	10.0005824	45	3.9994176	9986.598 2
11.2830281	191879.30	1	59 1013.571	10.0005890	45	3.9994110	9986.447 1
11.2806042	190811.37	0	60 1013.723	10.0005956	45	3.9994044	9986.295 0
L. Tan.	N. Tan	87			D	L. Sin.	N. Sin. 87

3	N.Sin.	L. Sin.	Diff.			3	N.Ta.	L. Tan	Diff.
0	523.360	8.7188002		11.2811998	191073.23 60	0	524.078	8.7193958	
1	526.264	8.7212040	24038	11.2787960	190018.54 59	1	526.995	8.7218063	24105
2	529.169	8.7235946	23906	11.2764054	188975.45 58	2	529.912	8.7242035	23972
3	532.074	8.7259721	23775	11.2740279	187943.76 57	3	532.829	8.7265877	23841
4	534.979	8.7283366	23645	11.2716634	186923.30 56	4	535.746	8.7289589	23712
5	537.883	8.7306882	23516	11.2693118	185913.87 55	5	538.663	8.7313174	23585
6	540.788	8.7330272	23390	11.2669728	184915.30 54	6	541.581	8.7336631	23457
7	543.693	8.7353535	23263	11.2646465	183927.42 53	7	544.498	8.7359964	23333
8	546.597	8.7376775	23140	11.2623325	182950.05 52	8	547.416	8.7383172	23208
9	549.502	8.7399961	23016	11.2600309	181983.03 51	9	550.333	8.7406258	23086
10	552.406	8.7423186	22895	11.2577414	181026.19 50	10	553.251	8.7429222	22964
11	555.311	8.7446360	22774	11.2554640	180079.37 49	11	556.169	8.7452067	22845
12	558.215	8.7469515	22655	11.2531985	179142.43 48	12	559.087	8.7474792	22725
13	561.119	8.7492653	22538	11.2509447	178215.20 47	13	562.005	8.7497400	22608
14	564.024	8.7515793	22420	11.2487027	177297.53 46	14	564.923	8.7519892	22492
15	566.928	8.7538928	22305	11.2464722	176389.28 45	15	567.841	8.7542269	22377
16	569.832	8.7562059	22191	11.2442531	175490.30 44	16	570.759	8.7564531	22262
17	572.736	8.7585186	22077	11.2420454	174600.46 43	17	573.678	8.7586681	22150
18	575.640	8.7608312	21966	11.2398488	173719.60 42	18	576.596	8.7608719	22038
19	578.544	8.7631436	21854	11.2376624	172847.61 41	19	579.515	8.7630647	21928
20	581.448	8.7654551	21745	11.2354889	171984.34 40	20	582.434	8.7652465	21818
21	584.352	8.7677667	21636	11.2333253	171129.66 39	21	585.352	8.7674175	21710
22	587.256	8.7699782	21528	11.2311725	170283.46 38	22	588.271	8.7695777	21602
23	590.160	8.7721897	21422	11.2290303	169445.55 37	23	591.190	8.7717274	21497
24	593.064	8.7744012	21317	11.2268986	168615.94 36	24	594.109	8.7738665	21391
25	595.967	8.7766127	21212	11.2247774	167794.39 35	25	597.029	8.7759952	21287
26	598.871	8.7788242	21108	11.2226666	166980.82 34	26	599.948	8.7781136	21184
27	601.775	8.7799357	21006	11.2205660	166175.12 33	27	602.867	8.7802218	21082
28	604.679	8.7810472	20904	11.2184756	165377.17 32	28	605.787	8.7823199	20981
29	607.582	8.7821587	20804	11.2163952	164586.86 31	29	608.706	8.7844075	20880
30	610.485	8.7832702	20705	11.2143247	163804.08 30	30	611.626	8.7864861	20782
31	613.389	8.7843817	20606	11.2122641	163028.73 29	31	614.546	8.7885544	20683
32	616.292	8.7854932	20508	11.2102133	162260.69 28	32	617.466	8.7906130	20586
33	619.196	8.7866047	20411	11.2081722	161499.87 27	33	620.386	8.7926620	20490
34	622.099	8.7877162	20316	11.2061406	160746.17 26	34	623.306	8.7947014	20394
35	625.002	8.7888277	20220	11.2041186	159999.48 25	35	626.226	8.7967313	20299
36	627.905	8.7899392	20127	11.2021059	159259.71 24	36	629.147	8.7987519	20206
37	630.808	8.7910507	20033	11.2001026	158526.76 23	37	632.067	8.8007632	20113
38	633.711	8.8018915	19941	11.1981085	157800.54 22	38	634.988	8.8027653	20021
39	636.614	8.8027323	19849	11.1961236	157080.96 21	39	637.908	8.8047683	19930
40	639.517	8.8035731	19759	11.1941477	156367.93 20	40	640.829	8.8067721	19839
41	642.420	8.8044139	19669	11.1921808	155661.35 19	41	643.750	8.8087772	19750
42	645.323	8.8052547	19580	11.1902228	154961.14 18	42	646.671	8.8107834	19662
43	648.226	8.8117264	19492	11.1882736	154267.21 17	43	649.592	8.8127907	19573
44	651.129	8.8131981	19404	11.1863332	153579.49 16	44	652.513	8.8147989	19487
45	654.031	8.8146698	19317	11.1844015	152897.88 15	45	655.435	8.8168071	19400
46	656.934	8.8161415	19232	11.1824783	152222.31 14	46	658.356	8.8188160	19314
47	659.836	8.8176132	19146	11.1805637	151552.70 13	47	661.278	8.8208258	19230
48	662.739	8.8190849	19062	11.1786575	150888.96 12	48	664.199	8.8228363	19146
49	665.641	8.8205566	18979	11.1767596	150231.03 11	49	667.121	8.8248476	19062
50	668.544	8.8220283	18895	11.1748701	149578.82 10	50	670.043	8.8268594	18980
51	671.446	8.8235000	18813	11.1729888	148932.26 9	51	672.965	8.8288724	18898
52	674.348	8.8249717	18732	11.1711156	148291.28 8	52	675.887	8.8308861	18817
53	677.251	8.8264434	18651	11.1692505	147655.80 7	53	678.809	8.8329007	18737
54	680.153	8.8279151	18571	11.1673934	147025.76 6	54	681.732	8.8349161	18656
55	683.055	8.8293868	18491	11.1655443	146401.09 5	55	684.654	8.8369323	18578
56	685.957	8.8308585	18412	11.1637031	145781.71 4	56	687.577	8.8389492	18499
57	688.859	8.8323302	18333	11.1618696	145167.57 3	57	690.499	8.8409668	18422
58	691.761	8.8338019	18257	11.1600439	144558.59 2	58	693.422	8.8429851	18344
59	694.663	8.8352736	18180	11.1582259	143954.71 1	59	696.345	8.8449941	18268
60	697.565	8.8367453	18104	11.1564155	143355.87 0	60	699.268	8.8469937	18192
			Diff.	L. Sec.	N. Sec.				Diff.

			N. Sec.	L. Sec.	D		
11.2806042	190811.37	60	0	10013.723	10.0005956	9.9994044	9986.295 60
11.2781937	189755.23	59	1	10013.376	10.0006022	9.9993978	9986.142 59
11.2757965	188710.68	58	2	10014.030	10.0006089	9.9993911	9985.989 58
11.2734123	187677.54	57	3	10014.185	10.0006156	9.9993844	9985.835 57
11.2710411	186655.62	56	4	10014.341	10.0006224	9.9993776	9985.680 56
11.2686826	185644.73	55	5	10014.498	10.0006292	9.9993708	9985.524 55
11.2663369	184644.71	54	6	10014.655	10.0006360	9.9993640	9985.367 54
11.2640036	183655.37	53	7	10014.813	10.0006428	9.9993572	9985.209 53
11.2616828	182676.54	52	8	10014.972	10.0006497	9.9993503	9985.050 52
11.2593742	181708.07	51	9	10015.132	10.0006567	9.9993433	9984.891 51
11.2570778	180749.77	50	10	10015.293	10.0006636	9.9993364	9984.731 50
11.2547933	179801.50	49	11	10015.455	10.0006707	9.9993293	9984.570 49
11.2525208	178863.10	48	12	10015.617	10.0006777	9.9993223	9984.408 48
11.2502600	177934.42	47	13	10015.780	10.0006848	9.9993152	9984.245 47
11.2480108	177015.29	46	14	10015.944	10.0006919	9.9993081	9984.081 46
11.2457731	176105.59	45	15	10016.109	10.0006991	9.9993009	9983.916 45
11.2435469	175205.16	44	16	10016.275	10.0007062	9.9992938	9983.751 44
11.2413319	174313.85	43	17	10016.442	10.0007135	9.9992865	9983.585 43
11.2391281	173431.55	42	18	10016.610	10.0007207	9.9992793	9983.418 42
11.2369353	172558.09	41	19	10016.778	10.0007280	9.9992720	9983.250 41
11.2347535	171693.37	40	20	10016.947	10.0007354	9.9992646	9983.081 40
11.2325825	170837.24	39	21	10017.117	10.0007428	9.9992572	9982.911 39
11.2304223	169989.57	38	22	10017.288	10.0007502	9.9992498	9982.741 38
11.2282726	169150.25	37	23	10017.460	10.0007576	9.9992424	9982.570 37
11.2261335	168319.55	36	24	10017.633	10.0007651	9.9992349	9982.398 36
11.2240048	167496.14	35	25	10017.807	10.0007726	9.9992274	9982.225 35
11.2218864	166681.12	34	26	10017.981	10.0007802	9.9992198	9982.051 34
11.2197782	165873.96	33	27	10018.156	10.0007878	9.9992122	9981.876 33
11.2176801	165074.55	32	28	10018.332	10.0007954	9.9992046	9981.701 32
11.2155921	164282.79	31	29	10018.509	10.0008031	9.9991966	9981.525 31
11.2135139	163498.56	30	30	10018.687	10.0008108	9.9991892	9981.348 30
11.2114456	162721.74	29	31	10018.866	10.0008185	9.9991815	9981.170 29
11.2093870	161952.25	28	32	10019.046	10.0008263	9.9991737	9980.991 28
11.2073380	161189.98	27	33	10019.226	10.0008341	9.9991659	9980.811 27
11.2052986	160434.82	26	34	10019.407	10.0008420	9.9991580	9980.630 26
11.2032687	159686.67	25	35	10019.589	10.0008499	9.9991501	9980.449 25
11.2012481	158945.45	24	36	10019.772	10.0008578	9.9991422	9980.267 24
11.1992368	158211.04	23	37	10019.956	10.0008658	9.9991342	9980.084 23
11.1972347	157483.37	22	38	10020.141	10.0008738	9.9991262	9979.900 22
11.1952417	156762.33	21	39	10020.326	10.0008818	9.9991182	9979.715 21
11.1932578	156047.84	20	40	10020.512	10.0008899	9.9991101	9979.529 20
11.1912828	155339.81	19	41	10020.699	10.0008980	9.9991020	9979.343 19
11.1893166	154638.14	18	42	10020.887	10.0009062	9.9990938	9979.156 18
11.1873593	153942.76	17	43	10021.076	10.0009144	9.9990856	9978.968 17
11.1854106	153253.58	16	44	10021.266	10.0009226	9.9990774	9978.779 16
11.1834706	152570.52	15	45	10021.457	10.0009309	9.9990691	9978.589 15
11.1815392	151893.49	14	46	10021.649	10.0009392	9.9990608	9978.398 14
11.1796162	151222.42	13	47	10021.841	10.0009475	9.9990525	9978.206 13
11.1777016	150557.23	12	48	10022.034	10.0009559	9.9990441	9978.014 12
11.1757954	149897.84	11	49	10022.228	10.0009643	9.9990357	9977.821 11
11.1738974	149244.17	10	5	10022.423	10.0009727	9.9990273	9977.627 10
11.1720006	148596.15	9	51	10022.619	10.0009812	9.9990188	9977.432 9
11.1701259	147953.72	8	52	10022.816	10.0009897	9.9990103	9977.236 8
11.1682522	147316.79	7	53	10023.013	10.0009983	9.9990017	9977.039 7
11.1663866	146685.29	6	54	10023.211	10.0010069	9.9989931	9976.842 6
11.1645288	146059.16	5	55	10023.410	10.0010155	9.9989845	9976.644 5
11.1626789	145438.33	4	56	10023.610	10.0010242	9.9989758	9976.445 4
11.1608367	144822.73	3	57	10023.811	10.0010329	9.9989671	9976.245 3
11.1590023	144212.30	2	58	10024.013	10.0010416	9.9989584	9976.044 2
11.1571755	143606.96	1	59	10024.216	10.0010504	9.9989496	9975.842 1
11.1553563	143006.66	0	60	10024.419	10.0010592	9.9989408	9975.640 0
L. Tang.	N. Tan. 186					L. Sin.	N. Sin 186

4	N. Sin.	L. Sin.	Diff.				4	N. 1a	L. 1a.	Diff.
0	697.568	3.8435845	1802	11.1564155	14335.8760	60	0	599.268	3.8446437	18117
1	702.466	3.8453874	1795	11.1546126	142762.0059	59	1	702.191	3.8462554	1802
2	703.368	3.8471827	1788	11.1528173	142173.0458	58	2	705.115	3.8482597	17969
3	706.270	3.8489707	1780	11.1510293	141588.9457	57	3	708.038	3.8500566	17899
4	709.171	3.8507512	1773	11.1492488	141009.6256	56	4	710.961	3.8518461	17822
5	712.073	3.8525245	1766	11.1474755	140435.0455	55	5	713.885	3.8536283	17751
6	714.974	3.8542905	1758	11.1457095	139865.1454	54	6	716.809	3.8554034	17675
7	717.876	3.8560493	1751	11.1439507	139299.8553	53	7	719.733	3.8571713	17600
8	720.777	3.8578010	1744	11.1421990	138739.1552	52	8	722.657	3.8589322	17530
9	723.678	3.8595457	1737	11.1404543	138182.9151	51	9	725.581	3.8606859	17460
10	726.580	3.8612833	1730	11.1387167	137631.1550	50	10	728.505	3.8624327	17390
11	729.481	3.8630139	1723	11.1369861	137083.7949	49	11	731.429	3.8641725	17330
12	732.382	3.8647376	1716	11.1352624	136540.7748	48	12	734.354	3.8659055	17262
13	735.283	3.8664545	1710	11.1335455	136002.0547	47	13	737.279	3.8676317	17194
14	738.184	3.8681646	1703	11.1318354	135467.5846	46	14	740.203	3.8693511	17127
15	741.085	3.8698690	1696	11.1301320	134937.3145	45	15	743.128	3.8710638	17061
16	743.986	3.8715646	1690	11.1284354	134411.1844	44	16	746.053	3.8727699	16995
17	746.887	3.8732546	1683	11.1267454	133889.1443	43	17	748.979	3.8744694	16929
18	749.787	3.8749381	1676	11.1250619	133371.1642	42	18	751.904	3.8761633	16864
19	752.688	3.8766150	1670	11.1233850	132857.1941	41	19	754.829	3.8778487	16799
20	755.589	3.8782854	1663	11.1217146	132347.1640	40	20	757.755	3.8795286	16735
21	758.489	3.8799493	1657	11.1200507	131841.0639	39	21	760.680	3.8812022	16672
22	761.390	3.8816069	1651	11.1183931	131338.8238	38	22	763.606	3.8828694	16609
23	764.290	3.8832581	1645	11.1167419	130840.4037	37	23	766.532	3.8845303	16547
24	767.190	3.8849031	1638	11.1150969	130345.7636	36	24	769.458	3.8861850	16484
25	770.091	3.8865418	1632	11.1134582	129854.8635	35	25	772.384	3.8878334	16423
26	772.991	3.8881743	1626	11.1118257	129367.6534	34	26	775.311	3.8894757	16362
27	775.891	3.8898007	1620	11.1101993	128884.1033	33	27	778.237	3.8911119	16301
28	778.791	3.8914209	1614	11.1085791	128404.1532	32	28	781.164	3.8927420	16240
29	781.691	3.8930351	1608	11.1069649	127927.7931	31	29	784.090	3.8943666	16180
30	784.591	3.8946433	1602	11.1053567	127454.9530	30	30	787.017	3.8959842	16121
31	787.491	3.8962455	1596	11.1037545	126985.6029	29	31	789.944	3.8975963	16062
32	790.391	3.8978418	1590	11.1021582	126519.7128	28	32	792.871	3.8992020	16004
33	793.290	3.8994322	1584	11.1005678	126057.2427	27	33	795.798	3.9008030	15947
34	796.190	3.9010168	1578	11.0989832	125598.1526	26	34	798.726	3.9023977	15890
35	799.090	3.9025955	1572	11.0974045	125142.4025	25	35	801.653	3.9039866	15833
36	801.989	3.9041685	1566	11.0958315	124689.9524	24	36	804.581	3.9055697	15775
37	804.889	3.9057358	1560	11.0942642	124240.7823	23	37	807.509	3.9071472	15718
38	807.788	3.9072975	1554	11.0927025	123794.8422	22	38	810.437	3.9087190	15661
39	810.687	3.9088535	1548	11.0911465	123352.1021	21	39	813.365	3.9102855	15604
40	813.587	3.9104039	1542	11.0895961	122912.5220	20	40	816.293	3.9118466	15547
41	816.486	3.9119487	1536	11.0880513	122476.0819	19	41	819.221	3.9134012	15490
42	819.385	3.9134881	1530	11.0865119	122042.7418	18	42	822.150	3.9149509	15433
43	822.284	3.9150219	1524	11.0849781	121612.4617	17	43	825.078	3.9164952	15376
44	825.183	3.9165504	1518	11.0834496	121185.2216	16	44	828.007	3.9180340	15319
45	828.082	3.9180734	1512	11.0819266	120760.9815	15	45	830.936	3.9195675	15262
46	830.981	3.9195911	1506	11.0804089	120339.7014	14	46	833.865	3.9210957	15205
47	833.880	3.9211034	1500	11.0788966	119921.3713	13	47	836.794	3.9226186	15147
48	836.778	3.9226105	1494	11.0773895	119505.9512	12	48	839.723	3.9241363	15090
49	839.677	3.9241123	1488	11.0758877	119093.4011	11	49	842.653	3.9256487	15033
50	842.576	3.9256092	1482	11.0743911	118683.7010	10	50	845.583	3.9271560	14976
51	845.474	3.9271003	1476	11.0728997	118276.8309	9	51	848.512	3.9286583	14919
52	848.373	3.9285866	1470	11.0714134	117872.7408	8	52	851.441	3.9301555	14862
53	851.271	3.9300678	1464	11.0699321	117471.4107	7	53	854.372	3.9316477	14805
54	854.169	3.9315439	1458	11.0684561	117072.8206	6	54	857.302	3.9331349	14748
55	857.067	3.9330150	1452	11.0669850	116676.9305	5	55	860.233	3.9346160	14691
56	859.966	3.9344811	1446	11.0655189	116283.7204	4	56	863.163	3.9360922	14634
57	862.864	3.9359422	1440	11.0640578	115893.6303	3	57	866.094	3.9375635	14577
58	865.762	3.9373983	1434	11.0626017	115505.2302	2	58	869.025	3.9390297	14520
59	868.660	3.9388496	1428	11.0611504	115119.9901	1	59	871.956	3.9404944	14463
60	871.557	3.9402960	1422	11.0597040	114737.1300	0	60	874.887	3.9419518	14406
			Diff.	L. Sec.	N. Sec.					Diff.

			N. sec.	L. sec.	D		
11.155356	141006.66	60	010024.419	10.0010592	89	9.9989408	9975.640
11.155446	142411.34	55	110024.623	10.0010681	89	9.9989319	9975.437
11.1517402	141820.92	58	210024.828	10.0010770	89	9.9989230	9975.233
11.1499434	141235.36	57	310025.034	10.0010859	89	9.9989141	9975.028
11.1481539	140654.59	56	410025.241	10.0010948	89	9.9989052	9974.822
11.1463717	140078.56	55	510025.449	10.0011038	90	9.9988962	9974.615
11.1445966	139507.19	54	610025.658	10.0011125	91	9.9988871	9974.407
11.1428287	138940.45	53	710025.868	10.0011220	91	9.9988780	9974.199
11.1410679	138378.27	52	810026.078	10.0011311	91	9.9988689	9973.990
11.1393141	137820.60	51	910026.289	10.0011402	92	9.9988598	9973.780
11.1375673	137267.38	50	1010026.501	10.0011494	92	9.9988506	9973.569
11.1358245	136718.56	49	1110026.714	10.0011586	92	9.9988414	9973.357
11.1340945	136174.09	48	1210026.928	10.0011679	93	9.9988321	9973.144
11.1323683	135633.91	47	1310027.143	10.0011772	93	9.9988228	9972.931
11.1306489	135097.99	46	1410027.358	10.0011865	93	9.9988135	9972.717
11.1289362	134566.25	45	1510027.574	10.0011959	94	9.9988041	9972.502
11.1272301	134038.67	44	1610027.791	10.0012053	94	9.9987947	9972.286
11.1255306	133515.18	43	1710028.009	10.0012147	94	9.9987853	9972.069
11.1238377	132995.74	42	1810028.228	10.0012242	95	9.9987758	9971.851
11.1221513	132480.31	41	1910028.448	10.0012337	95	9.9987663	9971.632
11.1204714	131968.83	40	2010028.668	10.0012433	96	9.9987567	9971.413
11.1187978	131461.27	39	2110028.889	10.0012529	96	9.9987471	9971.193
11.1171308	130957.57	38	2210029.111	10.0012625	96	9.9987375	9970.972
11.1154697	130457.69	37	2310029.334	10.0012722	97	9.9987278	9970.750
11.1138150	129961.60	36	2410029.558	10.0012819	97	9.9987181	9970.527
11.1121666	129469.24	35	2510029.783	10.0012916	97	9.9987084	9970.303
11.1105243	128980.58	34	2610030.009	10.0013014	98	9.9986986	9970.079
11.1088881	128495.57	33	2710030.236	10.0013112	98	9.9986888	9969.854
11.1072580	128014.17	32	2810030.464	10.0013210	98	9.9986790	9969.628
11.1056340	127536.34	31	2910030.693	10.0013309	99	9.9986691	9969.401
11.1040158	127062.05	30	3010030.922	10.0013409	100	9.9986591	9969.173
11.1024037	126591.25	29	3110031.152	10.0013508	99	9.9986492	9968.944
11.1007974	126123.90	28	3210031.383	10.0013608	100	9.9986392	9968.715
11.0991970	125659.97	27	3310031.615	10.0013708	100	9.9986292	9968.485
11.0976023	125199.42	26	3410031.848	10.0013809	101	9.9986191	9968.254
11.0960134	124742.21	25	3510032.081	10.0013910	101	9.9986090	9968.022
11.0944303	124288.31	24	3610032.315	10.0014012	102	9.9985988	9967.789
11.0928528	123837.68	23	3710032.550	10.0014114	102	9.9985886	9967.555
11.0912810	123390.28	22	3810032.786	10.0014216	102	9.9985784	9967.320
11.0897147	122946.08	21	3910033.023	10.0014318	103	9.9985682	9967.085
11.0881540	122505.06	20	4010033.261	10.0014421	103	9.9985579	9966.849
11.0865988	122067.16	19	4110033.500	10.0014525	104	9.9985475	9966.612
11.0850491	121632.34	18	4210033.740	10.0014628	103	9.9985372	9966.374
11.0835048	121200.61	17	4310033.980	10.0014732	104	9.9985268	9966.135
11.0819660	120771.92	16	4410034.221	10.0014837	105	9.9985163	9965.895
11.0804325	120346.22	15	4510034.463	10.0014942	105	9.9985058	9965.655
11.0789043	119923.49	14	4610034.706	10.0015047	105	9.9984953	9965.414
11.0773814	119503.70	13	4710034.950	10.0015152	106	9.9984848	9965.172
11.0758637	119086.82	12	4810035.195	10.0015258	106	9.9984742	9964.929
11.0743511	118672.82	11	4910035.441	10.0015364	106	9.9984636	9964.685
11.0728440	118261.67	10	5010035.687	10.0015471	107	9.9984529	9964.440
11.0713419	117853.33	9	5110035.934	10.0015578	107	9.9984422	9964.194
11.0698448	117447.79	8	5210036.182	10.0015685	107	9.9984315	9963.948
11.0683529	117045.00	7	5310036.431	10.0015793	108	9.9984207	9963.701
11.0668660	116644.95	6	5410036.681	10.0015901	108	9.9984099	9963.453
11.0653840	116247.61	5	5510036.932	10.0016010	109	9.9983990	9963.204
11.0639071	115852.94	4	5610037.184	10.0016119	109	9.9983881	9962.954
11.0624350	115460.93	3	5710037.436	10.0016228	109	9.9983772	9962.703
11.0609679	115071.54	2	5810037.689	10.0016337	109	9.9983663	9962.452
11.0595056	114684.74	1	5910037.943	10.0016447	110	9.9983553	9962.200
11.0580482	114300.52	0	6010038.198	10.0016558	111	9.9983442	9961.947
L. Tan.	N. Tan.	85			D	L. Sin.	N. Sin. 85

N. Sin.	L. Sin.	Diff.	N. Tan.	L. Tan.	Diff.
871.557	8.9402967	14415	874.887	8.9419518	14526
874.455	8.9417376	14367	877.818	8.9434044	14479
877.353	8.9431743	14320	880.749	8.9448523	14431
880.251	8.9446063	14272	883.681	8.9462954	14384
883.149	8.9460335	14226	886.612	8.9477338	14338
886.046	8.9474561	14178	889.544	8.9491676	14291
888.942	8.9488739	14132	892.476	8.9505967	14244
891.841	8.9502871	14086	895.408	8.9520211	14199
894.738	8.9516957	14039	898.341	8.9534410	14154
897.635	8.9530996	13995	901.273	8.9548564	14108
900.532	8.9544991	13949	904.206	8.9562672	14063
903.429	8.9558940	13903	907.138	8.9576733	14019
906.326	8.9572843	13860	910.071	8.9590754	13974
909.223	8.9586703	13814	913.004	8.9604728	13931
912.115	8.9600517	13771	915.938	8.9618659	13886
915.016	8.9614288	13726	918.871	8.9632545	13843
917.913	8.9628114	13683	921.804	8.9646388	13800
920.808	8.9641997	13640	924.737	8.9660188	13756
923.706	8.9655837	13597	927.672	8.9673944	13714
926.602	8.9669634	13553	930.606	8.9687658	13671
929.499	8.9683487	13512	933.540	8.9701330	13629
932.395	8.9697299	13469	936.474	8.9714959	13588
935.291	8.9711068	13427	939.409	8.9728547	13545
938.187	8.9724789	13385	942.344	8.9742094	13503
941.083	8.9738460	13344	945.278	8.9755597	13463
943.979	8.9752082	13302	948.213	8.9769066	13423
946.875	8.9765664	13261	951.148	8.9782488	13382
949.771	8.9779208	13220	954.084	8.9795861	13341
952.666	8.9792714	13181	957.019	8.9809185	13301
955.562	8.9806181	13140	959.954	8.9822469	13262
958.458	8.9819609	13100	962.891	8.9835769	13221
961.353	8.9833087	13060	965.826	8.9848991	13182
964.248	8.9846515	13021	968.763	8.9862173	13144
967.144	8.9859893	12981	971.699	8.9875317	13104
970.039	8.9873221	12943	974.635	8.9888421	13066
972.934	8.9886500	12903	977.572	8.9901487	13027
975.829	8.9899737	12865	980.509	8.9914514	12989
978.724	8.9912932	12827	983.446	8.9927503	12951
981.619	8.9926087	12788	986.383	8.9940454	12913
984.514	8.9939201	12751	989.320	8.9953367	12876
987.408	8.9952274	12713	992.257	8.9966243	12838
990.303	8.9965306	12675	995.195	8.9979081	12802
993.197	8.9978295	12638	998.133	8.9991883	12764
996.092	8.9991244	12601	1001.071	9.0004647	12728
998.986	8.9999955	12565	1004.009	9.0017375	12691
1001.881	9.0008627	12527	1006.947	9.0030066	12655
1004.775	9.0017259	12492	1009.885	9.0042721	12619
1007.669	9.0025851	12455	1012.824	9.0055340	12584
1010.563	9.0034403	12419	1015.763	9.0067924	12547
1013.457	9.0042915	12383	1018.702	9.0080471	12513
1016.351	9.0051387	12348	1021.641	9.0092984	12477
1019.245	9.0059819	12312	1024.580	9.0105461	12442
1022.138	9.0068211	12278	1027.520	9.0117903	12407
1025.032	9.0076563	12242	1030.460	9.0130310	12372
1027.925	9.0084875	12207	1033.400	9.0142683	12339
1030.819	9.0093147	12173	1036.340	9.0155021	12304
1033.712	9.0101379	12139	1039.280	9.0167335	12269
1036.606	9.0109571	12104	1042.220	9.0179624	12237
1039.499	9.0117723	12070	1045.160	9.0191881	12202
1042.392	9.0125835	12037	1048.101	9.0204093	12169
1045.285	9.0133907	12003	1051.042	9.0216261	12136
		Diff.			Diff.
		L. Sec			N. Sec. 184

		N. Sec.	L. Sec.	D	
11.0580482	114300.5260	0	10038.198	10.0016558	2.9983442
11.0565956	113918.8559	1	10038.454	10.0016668	2.9983332
11.0551477	113539.7057	2	10038.711	10.0016780	2.9983220
11.0537046	113163.0457	3	10038.969	10.0016891	2.9983109
11.0522662	112788.8556	4	10039.228	10.0017003	2.9982997
11.0508324	112417.1255	5	10039.487	10.0017115	2.9982885
11.0494023	112047.8054	6	10039.747	10.0017228	2.9982772
11.0479789	111680.8953	7	10040.008	10.0017340	2.9982660
11.0465590	111316.3552	8	10040.270	10.0017454	2.9982546
11.0451436	110954.1651	9	10040.533	10.0017567	2.9982433
11.0437328	110594.3150	10	10040.797	10.0017682	2.9982318
11.0423265	110236.7649	11	10041.061	10.0017796	2.9982204
11.0409246	109881.1048	12	10041.326	10.0017911	2.9982089
11.0395272	109528.5047	13	10041.592	10.0018026	2.9981974
11.0381341	109177.7546	14	10041.859	10.0018141	2.9981859
11.0367455	108829.2145	15	10042.127	10.0018257	2.9981743
11.0353612	108482.8844	16	10042.396	10.0018374	2.9981626
11.0339812	108138.7243	17	10042.666	10.0018490	2.9981510
11.0326056	107796.7342	18	10042.937	10.0018607	2.9981393
11.0312342	107456.8741	19	10043.208	10.0018725	2.9981278
11.0298670	107119.1339	20	10043.480	10.0018842	2.9981158
11.0285041	106783.4838	21	10043.753	10.0018960	2.9981040
11.0271453	106449.9237	22	10044.027	10.0019079	2.9980921
11.0257908	106118.4137	23	10044.302	10.0019198	2.9980802
11.0244403	105788.9536	24	10044.578	10.0019317	2.9980683
11.0230940	105461.5135	25	10044.855	10.0019437	2.9980563
11.0217517	105136.0734	26	10045.133	10.0019557	2.9980443
11.0204135	104812.6133	27	10045.411	10.0019677	2.9980323
11.0190794	104491.1232	28	10045.690	10.0019798	2.9980202
11.0177493	104171.5831	29	10045.970	10.0019919	2.9980081
11.0164231	103853.9730	30	10046.251	10.0020040	2.9979960
11.0151009	103538.2729	31	10046.533	10.0020162	2.9979838
11.0137827	103224.4728	32	10046.816	10.0020284	2.9979716
11.0124683	102912.5527	33	10047.099	10.0020407	2.9979593
11.0111579	102602.4926	34	10047.383	10.0020530	2.9979470
11.0098513	102294.2825	35	10047.668	10.0020653	2.9979347
11.0085486	101987.8924	36	10047.954	10.0020777	2.9979223
11.0072497	101683.3223	37	10048.241	10.0020901	2.9979099
11.0059546	101380.5422	38	10048.529	10.0021025	2.9978975
11.0046633	101079.5421	39	10048.818	10.0021150	2.9978850
11.0033757	100780.3120	40	10049.108	10.0021275	2.9978725
11.0020919	100482.8319	41	10049.399	10.0021411	2.9978599
11.0008117	100187.0818	42	10049.690	10.0021527	2.9978473
10.9995333	99893.0507	43	10049.982	10.0021653	2.9978347
10.9982625	99600.72416	44	10050.275	10.0021780	2.9978220
10.9969934	99310.08815	45	10050.569	10.0021907	2.9978093
10.9957279	99021.12514	46	10050.864	10.0022034	2.9977966
10.9944660	98733.82313	47	10051.160	10.0022162	2.9977838
10.9932076	98448.16612	48	10051.457	10.0022290	2.9977710
10.9919529	98164.14011	49	10051.754	10.0022418	2.9977582
10.9907016	97881.73210	50	10052.052	10.0022547	2.9977453
10.9894539	97600.9279	51	10052.351	10.0022677	2.9977323
10.9882097	97321.7138	52	10052.651	10.0022806	2.9977194
10.9869690	97044.0757	53	10052.952	10.0022936	2.9977064
10.9857318	96768.0006	54	10053.254	10.0023067	2.9976933
10.9844979	96493.4755	55	10053.557	10.0023197	2.9976803
10.9832675	96220.4864	56	10053.860	10.0023328	2.9976672
10.9820406	95949.0223	57	10054.164	10.0023460	2.9976540
10.9808169	95679.0683	58	10054.469	10.0023592	2.9976408
10.9795967	95410.6131	59	10054.775	10.0023724	2.9976276
10.9783798	95143.6450	60	10055.082	10.0023857	2.9976143
L. Tan N. Tan. 84				D	L. Sin. N. Sin. 84

6 N. Sin.	L. Sin.	Diff.			6 N. Tan.	L. Tan.	Diff.
0 1045.285	9.0192346		10.9807654	95667.722 60	0 1051.042	9.0216202	
1 1048.178	9.0204348	12002	10.9795652	95403.686 59	1 1053.983	9.0228338	12136
2 1051.070	9.0216318	11970	10.9783682	95141.110 58	2 1056.924	9.0240441	12103
3 1053.963	9.0228254	11936	10.9771746	94879.984 57	3 1059.866	9.0252510	12069
4 1056.856	9.0240157	11903	10.9759843	94620.296 56	4 1062.808	9.0264548	12038
5 1059.748	9.0252027	11870	10.9747973	94362.033 55	5 1065.750	9.0276552	12004
6 1062.641	9.0263865	11838	10.9736135	94105.184 54	6 1068.692	9.0288524	11972
7 1065.533	9.0275669	11804	10.9724331	93849.738 53	7 1071.634	9.0300464	11940
8 1068.425	9.0287442	11773	10.9712558	93595.682 52	8 1074.576	9.0312373	11909
9 1071.318	9.0299182	11740	10.9700818	93343.006 51	9 1077.519	9.0324249	11876
10 1074.210	9.0310890	11708	10.9689110	93091.699 50	10 1080.462	9.0336093	11844
11 1077.102	9.0322567	11677	10.9677423	92841.749 49	11 1083.405	9.0347906	11813
12 1079.994	9.0334212	11645	10.9665788	92593.145 48	12 1086.348	9.0359688	11782
13 1082.885	9.0345825	11613	10.9654175	92345.877 47	13 1089.291	9.0371439	11751
14 1085.777	9.0357407	11582	10.9642593	92099.934 46	14 1092.234	9.0383159	11720
15 1088.669	9.0368958	11551	10.9631042	91855.305 45	15 1095.178	9.0394848	11689
16 1091.560	9.0380477	11519	10.9619523	91611.980 44	16 1098.122	9.0406506	11658
17 1094.452	9.0391966	11489	10.9608034	91369.949 43	17 1101.066	9.0418134	11628
18 1097.343	9.0403424	11458	10.9596576	91129.200 42	18 1104.010	9.0429731	11597
19 1100.234	9.0414852	11428	10.9585148	90889.725 41	19 1106.954	9.0441199	11568
20 1103.126	9.0426249	11397	10.9573751	90651.512 40	20 1109.899	9.0452630	11537
21 1106.017	9.0437617	11368	10.9562383	90414.553 39	21 1112.844	9.0464034	11507
22 1108.908	9.0448954	11337	10.9551046	90178.837 38	22 1115.789	9.0475521	11478
23 1111.799	9.0460261	11307	10.9539739	89944.354 37	23 1118.734	9.0487076	11449
24 1114.689	9.0471538	11277	10.9528462	89711.095 36	24 1121.679	9.0498689	11419
25 1117.580	9.0482786	11248	10.9517214	89479.051 35	25 1124.625	9.0510078	11389
26 1120.471	9.0494005	11219	10.9505995	89248.211 34	26 1127.571	9.0521439	11361
27 1123.361	9.0505194	11189	10.9494806	89018.567 33	27 1130.517	9.0532771	11332
28 1126.252	9.0516354	11160	10.9483645	88790.109 32	28 1133.463	9.0544074	11303
29 1129.142	9.0527485	11131	10.9472515	88562.828 31	29 1136.409	9.0555349	11275
30 1132.032	9.0538588	11103	10.9461412	88336.715 30	30 1139.356	9.0566595	11246
31 1134.922	9.0549661	11073	10.9450339	88111.761 29	31 1142.303	9.0577813	11218
32 1137.812	9.0560706	11045	10.9439294	87887.957 28	32 1145.250	9.0589002	11189
33 1140.702	9.0571723	11017	10.9428277	87665.295 27	33 1148.197	9.0600164	11162
34 1143.592	9.0582711	10988	10.9417289	87443.766 26	34 1151.144	9.0611297	11133
35 1146.482	9.0593672	10961	10.9406328	87223.361 25	35 1154.091	9.0622403	11106
36 1149.371	9.0604604	10932	10.9395396	87004.071 24	36 1157.039	9.0633482	11079
37 1152.261	9.0615509	10905	10.9384491	86785.889 23	37 1159.987	9.0644533	11051
38 1155.151	9.0626386	10877	10.9373614	86568.805 22	38 1162.935	9.0655556	11023
39 1158.040	9.0637233	10849	10.9362765	86352.812 21	39 1165.883	9.0666553	10997
40 1160.929	9.0648057	10822	10.9351943	86137.901 20	40 1168.831	9.0677522	10969
41 1163.818	9.0658855	10795	10.9341148	85924.065 19	41 1171.780	9.0688465	10943
42 1166.707	9.0669619	10767	10.9330381	85711.295 18	42 1174.729	9.0699381	10916
43 1169.596	9.0680360	10741	10.9319640	85499.584 17	43 1177.678	9.0710270	10889
44 1172.485	9.0691074	10714	10.9308926	85288.923 16	44 1180.628	9.0721133	10863
45 1175.374	9.0701761	10687	10.9298239	85079.304 15	45 1183.578	9.0731969	10836
46 1178.263	9.0712421	10660	10.9287579	84870.721 14	46 1186.528	9.0742779	10810
47 1181.151	9.0723055	10634	10.9276945	84663.165 13	47 1189.478	9.0753563	10784
48 1184.040	9.0733663	10608	10.9266337	84456.629 12	48 1192.428	9.0764321	10758
49 1186.928	9.0744244	10581	10.9255756	84251.105 11	49 1195.378	9.0775053	10732
50 1189.816	9.0754799	10555	10.9245201	84046.586 10	50 1198.328	9.0785760	10707
51 1192.704	9.0765329	10530	10.9234671	83843.065 9	51 1201.279	9.0796441	10681
52 1195.592	9.0775832	10503	10.9224168	83640.534 8	52 1204.230	9.0807096	10655
53 1198.481	9.0786310	10478	10.9213690	83438.986 7	53 1207.181	9.0817726	10630
54 1201.368	9.0796762	10452	10.9203238	83238.415 6	54 1210.132	9.0828331	10605
55 1204.256	9.0807189	10427	10.9192811	83038.812 5	55 1213.084	9.0838911	10580
56 1207.144	9.0817590	10401	10.9182416	82840.171 4	56 1216.036	9.0849466	10555
57 1210.031	9.0827966	10376	10.9172034	82642.485 3	57 1218.988	9.0859996	10530
58 1212.919	9.0838317	10351	10.9161683	82445.748 2	58 1221.940	9.0870501	10505
59 1215.806	9.0848643	10326	10.9151357	82249.952 1	59 1224.893	9.0880981	10480
60 1218.693	9.0858945	10302	10.9141055	82055.090 0	60 1227.846	9.0891438	10457
		Diff.	L. Sec.	N. Sec.			Diff.

			N. Sec.	L. Sec.	D		
10.9783798	95143.645	50	0	10055.082	10.0023857	9.9976143	9945.218
10.9771665	94878.149	59	1	10055.390	10.0023989	9.9976011	9944.914
10.9759559	94614.116	58	2	10055.699	10.0024123	9.9975877	9944.605
10.9747490	94351.531	57	3	10056.009	10.0024257	9.9975743	9944.303
10.97354.2	94090.384	56	4	10056.320	10.0024391	9.9975609	9943.998
10.9723448	93830.663	55	5	10056.631	10.0024525	9.9975475	9943.688
10.9711476	93572.355	54	6	10056.943	10.0024660	9.9975340	9943.375
10.9699536	93315.450	53	7	10057.256	10.0024795	9.9975205	9943.065
10.9687627	93059.936	52	8	10057.570	10.0024931	9.9975069	9942.755
10.9675751	92805.802	51	9	10057.885	10.0025067	9.9974933	9942.448
10.9663907	92553.055	50	10	10058.201	10.0025203	9.9974797	9942.136
10.9652094	92303.627	49	11	10058.518	10.0025340	9.9974660	9941.823
10.9640312	92051.564	48	12	10058.835	10.0025477	9.9974523	9941.509
10.9628561	91802.838	47	13	10059.153	10.0025614	9.9974386	9941.194
10.9616835	91555.435	46	14	10059.472	10.0025752	9.9974248	9940.879
10.9605152	91309.348	45	15	10059.792	10.0025890	9.9974110	9940.563
10.9593494	91064.554	44	16	10060.113	10.0026029	9.9973971	9940.246
10.9581866	90821.074	43	17	10060.435	10.0026167	9.9973833	9939.928
10.9570265	90578.867	42	18	10060.758	10.0026307	9.9973693	9939.609
10.9558701	90337.933	41	19	10061.081	10.0026446	9.9973554	9939.289
10.9547164	90098.261	40	20	10061.405	10.0026586	9.9973414	9938.969
10.9535657	89859.842	39	21	10061.730	10.0026727	9.9973273	9938.648
10.9524179	89622.668	38	22	10062.056	10.0026868	9.9973132	9938.328
10.9512730	89386.736	37	23	10062.383	10.0027009	9.9972991	9938.003
10.9501311	89152.008	36	24	10062.711	10.0027150	9.9972850	9937.679
10.9489922	88918.505	35	25	10063.040	10.0027292	9.9972708	9937.354
10.9478561	88686.206	34	26	10063.370	10.0027434	9.9972566	9937.028
10.9467229	88455.103	33	27	10063.701	10.0027577	9.9972423	9936.702
10.9455926	88225.186	32	28	10064.032	10.0027720	9.9972280	9936.375
10.9444651	87996.446	31	29	10064.364	10.0027863	9.9972137	9936.047
10.9433405	87768.874	30	30	10064.697	10.0028007	9.9971993	9935.718
10.9422187	87542.461	29	31	10065.031	10.0028151	9.9971849	9935.388
10.9410990	87317.198	28	32	10065.366	10.0028296	9.9971704	9935.058
10.9399836	87093.077	27	33	10065.704	10.0028441	9.9971559	9934.727
10.9388703	86870.088	26	34	10066.039	10.0028586	9.9971414	9934.395
10.9377597	86648.223	25	35	10066.377	10.0028732	9.9971268	9934.062
10.9366518	86427.475	24	36	10066.715	10.0028878	9.9971122	9933.728
10.9355467	86207.833	23	37	10067.054	10.0029024	9.9970976	9933.393
10.9344444	85989.290	22	38	10067.394	10.0029171	9.9970829	9933.057
10.9333447	85771.838	21	39	10067.735	10.0029318	9.9970682	9932.720
10.9322478	85555.468	20	40	10068.077	10.0029465	9.9970535	9932.383
10.9311535	85340.172	19	41	10068.420	10.0029613	9.9970387	9932.045
10.9300619	85125.942	18	42	10068.764	10.0029761	9.9970239	9931.706
10.9289730	84912.772	17	43	10069.108	10.0029910	9.9970090	9931.366
10.9278867	84700.651	16	44	10069.453	10.0030059	9.9969941	9931.025
10.9268031	84489.573	15	45	10069.799	10.0030208	9.9969792	9930.684
10.9257221	84279.531	14	46	10070.146	10.0030358	9.9969642	9930.342
10.9246437	84070.515	13	47	10070.494	10.0030508	9.9969492	9929.999
10.9235679	83862.519	12	48	10070.843	10.0030658	9.9969342	9929.655
10.9224947	83655.536	11	49	10071.193	10.0030809	9.9969191	9929.310
10.9214240	83449.557	10	50	10071.544	10.0030960	9.9969040	9928.964
10.9203559	83244.577	9	51	10071.896	10.0031112	9.9968888	9928.617
10.9192904	83040.586	8	52	10072.248	10.0031264	9.9968736	9928.270
10.9182274	82837.579	7	53	10072.601	10.0031416	9.9968584	9927.922
10.9171665	82635.547	6	54	10072.955	10.0031569	9.9968431	9927.573
10.9161085	82434.485	5	55	10073.310	10.0031722	9.9968278	9927.223
10.9150534	82234.384	4	56	10073.666	10.0031875	9.9968125	9926.874
10.9140004	82035.239	3	57	10074.023	10.0032029	9.9967971	9926.521
10.9129495	81837.041	2	58	10074.381	10.0032183	9.9967817	9926.169
10.9119015	81639.786	1	59	10074.740	10.0032338	9.9967662	9925.811
10.9108562	81443.464	0	60	10075.099	10.0032493	9.9967507	9925.462
L. Tan.	N. Tan.	83				D	L. Sin.
							N. Sin.

7	N. Sin.	L. Sin.	Diff.			7	N. Ta.	L. Tan.	Diff.
0	1218.693	9.0858945		10.9141055	82055.090	0	1227.846	9.0891438	
1	1221.581	9.0869221	10276	10.9130779	81861.157	1	1230.799	9.0901869	10431
2	1224.468	9.0879473	10452	10.9120527	81668.145	2	1233.752	9.0912277	10600
3	1227.355	9.0889700	10227	10.9110300	81476.048	3	1236.705	9.0922660	10833
4	1230.241	9.0899903	10203	10.9100097	81284.860	4	1239.658	9.0933020	11035
5	1233.128	9.0910082	10179	10.9089918	81094.573	5	1242.612	9.0943355	11252
6	1236.015	9.0920237	10155	10.9079763	80905.182	6	1245.566	9.0953667	11488
7	1238.901	9.0930367	10130	10.9069633	80716.681	7	1248.520	9.0963955	11644
8	1241.788	9.0940474	10107	10.9059526	80529.062	8	1251.474	9.0974219	11810
9	1244.674	9.0950556	10082	10.9049444	80342.321	9	1254.429	9.0984466	11988
10	1247.560	9.0960615	10059	10.9039385	80156.450	10	1257.384	9.0994678	12174
11	1250.446	9.0970651	10036	10.9029347	79971.445	11	1260.339	9.1004872	12372
12	1253.332	9.0980662	10011	10.9019338	79787.298	12	1263.294	9.1015044	12580
13	1256.218	9.0990651	9989	10.9009349	79604.003	13	1266.249	9.1025192	12798
14	1259.104	9.1000616	9965	10.8999384	79421.556	14	1269.205	9.1035317	13025
15	1261.990	9.1010558	9942	10.8989442	79239.950	15	1272.161	9.1045420	13260
16	1264.875	9.1020477	9919	10.8979523	79059.179	16	1275.117	9.1055500	13502
17	1267.761	9.1030373	9896	10.8969627	78879.238	17	1278.073	9.1065557	13752
18	1270.646	9.1040246	9873	10.8959754	78700.120	18	1281.029	9.1075591	14009
19	1273.531	9.1050096	9850	10.8949904	78521.821	19	1283.986	9.1085604	14272
20	1276.416	9.1059924	9828	10.8940076	78344.335	20	1286.943	9.1095599	14540
21	1279.301	9.1069729	9805	10.8930271	78167.656	21	1289.900	9.1105568	14814
22	1282.186	9.1079512	9783	10.8920488	77991.778	22	1292.857	9.1115508	15094
23	1285.071	9.1089272	9760	10.8910728	77816.697	23	1295.815	9.1125431	15379
24	1287.956	9.1099010	9738	10.8900990	77642.406	24	1298.773	9.1135333	15669
25	1290.841	9.1108726	9716	10.8891274	77468.901	25	1301.731	9.1145213	15964
26	1293.725	9.1118420	9694	10.8881580	77296.176	26	1304.689	9.1155072	16264
27	1296.609	9.1128092	9672	10.8871908	77124.227	27	1307.648	9.1164909	16569
28	1299.494	9.1137742	9650	10.8862258	76953.047	28	1310.607	9.1174724	16879
29	1302.378	9.1147370	9628	10.8852630	76782.631	29	1313.566	9.1184518	17194
30	1305.262	9.1156977	9607	10.8843023	76612.976	30	1316.525	9.1194291	17514
31	1308.146	9.1166562	9585	10.8833438	76444.075	31	1319.484	9.1204043	17839
32	1311.030	9.1176125	9563	10.8823875	76275.923	32	1322.444	9.1213773	18169
33	1313.913	9.1185667	9542	10.8814333	76108.516	33	1325.404	9.1223482	18504
34	1316.797	9.1195188	9521	10.8804812	75941.849	34	1328.364	9.1233171	18844
35	1319.681	9.1204688	9500	10.8795312	75775.916	35	1331.324	9.1242839	19189
36	1322.564	9.1214167	9479	10.8785833	75610.713	36	1334.285	9.1252486	19539
37	1325.447	9.1223624	9457	10.8776376	75446.236	37	1337.246	9.1262112	19894
38	1328.330	9.1233061	9437	10.8766939	75282.478	38	1340.207	9.1271718	20254
39	1331.213	9.1242477	9416	10.8757523	75119.437	39	1343.168	9.1281303	20619
40	1334.096	9.1251872	9395	10.8748128	74957.106	40	1346.129	9.1290868	20989
41	1336.979	9.1261246	9374	10.8738754	74795.482	41	1349.091	9.1300413	21364
42	1339.862	9.1270600	9354	10.8729400	74634.560	42	1352.053	9.1309937	21744
43	1342.744	9.1279934	9334	10.8720066	74474.335	43	1355.015	9.1319442	22129
44	1345.627	9.1289247	9313	10.8710753	74314.803	44	1357.977	9.1328926	22519
45	1348.509	9.1298535	9292	10.8701461	74155.959	45	1360.940	9.1338391	22914
46	1351.392	9.1307812	9273	10.8692188	73997.798	46	1363.903	9.1347835	23314
47	1354.274	9.1317064	9252	10.8682936	73840.318	47	1366.866	9.1357260	23719
48	1357.156	9.1326297	9233	10.8673703	73683.512	48	1369.829	9.1366665	24129
49	1360.038	9.1335509	9212	10.8664491	73527.377	49	1372.793	9.1376051	24544
50	1362.919	9.1344702	9193	10.8655298	73371.909	50	1375.757	9.1385417	24964
51	1365.801	9.1353875	9173	10.8646125	73217.102	51	1378.721	9.1394764	25389
52	1368.683	9.1363028	9153	10.8636972	73062.954	52	1381.685	9.1404092	25819
53	1371.564	9.1372161	9133	10.8627839	72909.460	53	1384.650	9.1413400	26254
54	1374.445	9.1381275	9114	10.8618725	72756.616	54	1387.615	9.1422689	26694
55	1377.327	9.1390370	9095	10.8609630	72604.417	55	1390.580	9.1431955	27139
56	1380.208	9.1399445	9075	10.8600555	72452.859	56	1393.545	9.1441210	27589
57	1383.089	9.1408501	9056	10.8591499	72301.940	57	1396.510	9.1450442	28044
58	1385.970	9.1417537	9036	10.8582463	72151.653	58	1399.476	9.1459655	28504
59	1388.850	9.1426555	9018	10.8573445	72001.996	59	1402.442	9.1468850	28969
60	1391.731	9.1435555	8998	0.8564447	71852.965	60	1405.408	9.1478025	29439
			Diff.	L. Sec.	N. Sec.				Diff.

			7	N. Sec.	L. Sec.	D			
10.9108562	81443.464	60	0	10075.099	10.0032493	155	9.9967507	9925.462	60
10.9098171	81248.071	59	1	10075.459	10.0032648	155	9.9967352	9925.107	59
10.9087723	81053.599	58	2	10075.820	10.0032804	156	9.9967196	9924.751	58
10.9077340	80860.042	57	3	10076.182	10.0032960	156	9.9967040	9924.394	57
10.9066980	80667.394	56	4	10076.545	10.0033116	156	9.9966884	9924.035	56
10.9056645	80475.647	55	5	10076.909	10.0033273	157	9.9966727	9923.678	55
10.9046333	80284.796	54	6	10077.274	10.0033430	157	9.9966570	9923.319	54
10.9036045	80094.835	53	7	10077.639	10.0033588	158	9.9966412	9922.959	53
10.9025741	79905.756	52	8	10078.005	10.0033746	158	9.9966254	9922.598	52
10.9015540	79717.555	51	9	10078.372	10.0033904	158	9.9966096	9922.236	51
10.9005322	79530.224	50	10	10078.740	10.0034063	159	9.9965937	9921.874	50
10.8995128	79343.758	49	11	10079.109	10.0034221	159	9.9965778	9921.511	49
10.8984956	79158.151	48	12	10079.479	10.0034381	159	9.9965619	9921.147	48
10.8974808	78973.396	47	13	10079.850	10.0034541	160	9.9965459	9920.782	47
10.8964683	78789.489	46	14	10080.222	10.0034701	160	9.9965299	9920.416	46
10.8954580	78606.423	45	15	10080.595	10.0034862	161	9.9965138	9920.049	45
10.8944500	78424.191	44	16	10080.969	10.0035023	161	9.9964977	9919.681	44
10.8934443	78242.790	43	17	10081.343	10.0035184	161	9.9964816	9919.313	43
10.8924409	78062.219	42	18	10081.718	10.0035345	161	9.9964655	9918.944	42
10.8914396	77882.453	41	19	10082.094	10.0035507	162	9.9964493	9918.574	41
10.8904406	77703.506	40	20	10082.471	10.0035670	163	9.9964330	9918.203	40
10.8894438	77525.366	39	21	10082.849	10.0035833	163	9.9964167	9917.831	39
10.8884492	77348.028	38	22	10083.228	10.0035996	163	9.9964004	9917.459	38
10.8874569	77171.486	37	23	10083.607	10.0036159	163	9.9963841	9917.086	37
10.8864667	76995.735	36	24	10083.988	10.0036323	164	9.9963677	9916.712	36
10.8854787	76820.769	35	25	10084.370	10.0036487	164	9.9963513	9916.337	35
10.8844928	76646.584	34	26	10084.752	10.0036652	165	9.9963348	9915.961	34
10.8835091	76473.174	33	27	10085.135	10.0036817	165	9.9963183	9915.584	33
10.8825276	76300.533	32	28	10085.519	10.0036982	165	9.9963018	9915.206	32
10.8815482	76128.657	31	29	10085.904	10.0037148	166	9.9962852	9914.828	31
10.8805709	75957.541	30	30	10086.290	10.0037314	166	9.9962686	9914.449	30
10.8795957	75787.179	29	31	10086.677	10.0037481	167	9.9962519	9914.069	29
10.8786227	75617.567	28	32	10087.065	10.0037648	167	9.9962352	9913.688	28
10.8776518	75448.699	27	33	10087.453	10.0037815	167	9.9962185	9913.306	27
10.8766829	75280.571	26	34	10087.842	10.0037983	168	9.9962017	9912.923	26
10.8757161	75113.178	25	35	10088.232	10.0038151	168	9.9961849	9912.539	25
10.8747514	74946.514	24	36	10088.623	10.0038319	168	9.9961681	9912.155	24
10.8737888	74780.576	23	37	10089.015	10.0038488	169	9.9961512	9911.770	23
10.8728282	74615.357	22	38	10089.408	10.0038657	169	9.9961343	9911.384	22
10.8718697	74450.855	21	39	10089.802	10.0038826	170	9.9961174	9910.997	21
10.8709132	74287.064	20	40	10090.197	10.0038996	170	9.9961004	9910.609	20
10.8699587	74123.978	19	41	10090.592	10.0039166	171	9.9960834	9910.221	19
10.8690083	73961.595	18	42	10090.988	10.0039337	171	9.9960663	9909.832	18
10.8680558	73799.909	17	43	10091.385	10.0039508	171	9.9960492	9909.442	17
10.8671074	73638.916	16	44	10091.783	10.0039679	172	9.9960321	9909.051	16
10.8661609	73478.610	15	45	10092.182	10.0039851	172	9.9960149	9908.659	15
10.8652165	73318.989	14	46	10092.582	10.0040023	172	9.9959977	9908.266	14
10.8642740	73160.047	13	47	10092.983	10.0040196	173	9.9959804	9907.872	13
10.8633335	73004.780	12	48	10093.385	10.0040369	173	9.9959631	9907.478	12
10.8623949	72844.184	11	49	10093.788	10.0040542	173	9.9959458	9907.083	11
10.8614583	72687.255	10	50	10094.192	10.0040716	174	9.9959284	9906.687	10
10.8605236	72530.987	9	51	10094.596	10.0040889	175	9.9959111	9906.290	9
10.8595908	72375.378	8	52	10095.001	10.0041064	175	9.9958936	9905.892	8
10.8586600	72220.422	7	53	10095.407	10.0041239	175	9.9958761	9905.493	7
10.8577311	72066.116	6	54	10095.814	10.0041414	175	9.9958586	9905.094	6
10.8568041	71912.456	5	55	10096.222	10.0041589	175	9.9958411	9904.694	5
10.8558750	71759.437	4	56	10096.631	10.0041765	176	9.9958235	9904.293	4
10.8549558	71607.056	3	57	10097.041	10.0041941	176	9.9958059	9903.891	3
10.8540345	71455.308	2	58	10097.452	10.0042118	177	9.9957882	9903.488	2
10.8531150	71304.190	1	59	10097.864	10.0042295	177	9.9957705	9903.084	1
10.8521975	71153.691	0	60	10098.276	10.0042472	177	9.9957528	9902.680	0
L. Tang.	N. Tan.	32				D	L. Sin.	N. Sin.	81

8 N. Sin.	L. Sin.	Diff.			8 N. Tan.	L. Tan.	Diff.
0 1391.731	9.1435553	8979	10.8564447	71852.965	66	0 1405.408	9.1478025
1 1394.612	9.1444532	8961	10.8555468	71704.556	55	1 1408.374	9.1487182
2 1397.492	9.1453493	8942	10.8546507	71556.764	58	2 1411.341	9.1496321
3 1400.372	9.1462435	8923	10.8537505	71409.587	57	3 1414.308	9.1505441
4 1403.252	9.1471358	8904	10.8528642	71263.019	56	4 1417.275	9.1514543
5 1406.132	9.1480262	8886	10.8519738	71117.058	55	5 1420.243	9.1523627
6 1409.012	9.1489148	8867	10.8510852	70971.700	54	6 1423.211	9.1532692
7 1411.892	9.1498015	8849	10.8501985	70826.941	53	7 1426.179	9.1541739
8 1414.772	9.1506864	8830	10.8493136	70682.777	52	8 1429.147	9.1550769
9 1417.651	9.1515694	8813	10.8484306	70539.205	51	9 1432.115	9.1559780
10 1420.531	9.1524507	8794	10.8475493	70396.220	50	10 1435.084	9.1568773
11 1423.410	9.1533301	8775	10.8466699	70253.820	49	11 1438.053	9.1577748
12 1426.289	9.1542076	8758	10.8457924	70112.001	48	12 1441.022	9.1586706
13 1429.168	9.1550834	8740	10.8449166	69970.760	47	13 1443.991	9.1595646
14 1432.047	9.1559574	8722	10.8440426	69830.092	46	14 1446.961	9.1604569
15 1434.926	9.1568296	8704	10.8431704	69689.994	45	15 1449.931	9.1613478
16 1437.805	9.1577000	8686	10.8423000	69550.464	44	16 1452.901	9.1622366
17 1440.684	9.1585686	8668	10.8414314	69411.496	43	17 1455.871	9.1631231
18 1443.562	9.1594354	8651	10.8405646	69273.089	42	18 1458.842	9.1640083
19 1446.440	9.1603005	8634	10.8396995	69135.239	41	19 1461.813	9.1648919
20 1449.319	9.1611639	8615	10.8388361	68997.942	40	20 1464.784	9.1657737
21 1452.197	9.1620254	8599	10.8379746	68861.195	39	21 1467.755	9.1666538
22 1455.075	9.1628853	8581	10.8371147	68724.995	38	22 1470.727	9.1675321
23 1457.953	9.1637434	8564	10.8362566	68589.338	37	23 1473.699	9.1684089
24 1460.830	9.1645998	8546	10.8354002	68454.222	36	24 1476.671	9.1692835
25 1463.708	9.1654544	8530	10.8345456	68319.642	35	25 1479.644	9.1701572
26 1466.585	9.1663074	8512	10.8336926	68185.597	34	26 1482.617	9.1710289
27 1469.463	9.1671586	8495	10.8328414	68052.082	33	27 1485.590	9.1718989
28 1472.340	9.1680081	8478	10.8319919	67919.095	32	28 1488.563	9.1727673
29 1475.217	9.1688559	8462	10.8311441	67786.632	31	29 1491.536	9.1736338
30 1478.094	9.1697021	8444	10.8302979	67654.691	30	30 1494.510	9.1744988
31 1480.971	9.1705465	8428	10.8294535	67523.268	29	31 1497.484	9.1753612
32 1483.848	9.1713893	8412	10.8286107	67392.360	28	32 1500.458	9.1762239
33 1486.724	9.1722305	8394	10.8277695	67261.965	27	33 1503.433	9.1770840
34 1489.601	9.1730699	8378	10.8269301	67132.079	26	34 1506.408	9.1779425
35 1492.477	9.1739077	8362	10.8260923	67002.699	25	35 1509.383	9.1787993
36 1495.353	9.1747439	8345	10.8252561	66873.822	24	36 1512.358	9.1796546
37 1498.230	9.1755784	8328	10.8244216	66745.446	23	37 1515.333	9.1805082
38 1501.106	9.1764112	8313	10.8235883	66617.568	22	38 1518.309	9.1813602
39 1503.981	9.1772425	8296	10.8227575	66490.184	21	39 1521.285	9.1822109
40 1506.857	9.1780721	8280	10.8219279	66363.293	20	40 1524.261	9.1830595
41 1509.733	9.1789001	8264	10.8210999	66236.890	19	41 1527.238	9.1839068
42 1512.608	9.1797265	8247	10.8202735	66110.973	18	42 1530.215	9.1847525
43 1515.484	9.1805512	8232	10.8194488	65985.540	17	43 1533.192	9.1855966
44 1518.359	9.1813744	8216	10.8186256	65860.587	16	44 1536.169	9.1864392
45 1521.234	9.1821960	8200	10.8178040	65736.112	15	45 1539.147	9.1872802
46 1524.109	9.1830160	8184	10.8169840	65612.113	14	46 1542.125	9.1881196
47 1526.984	9.1838344	8168	10.8161656	65488.586	13	47 1545.103	9.1889575
48 1529.858	9.1846512	8153	10.8153488	65365.528	12	48 1548.082	9.1897939
49 1532.733	9.1854665	8137	10.8145335	65242.938	11	49 1551.061	9.1906287
50 1535.607	9.1862802	8121	10.8137198	65120.812	10	50 1554.040	9.1914621
51 1538.482	9.1870923	8106	10.8129077	64999.148	9	51 1557.019	9.1922939
52 1541.356	9.1879029	8091	10.8120971	64877.944	8	52 1559.998	9.1931241
53 1544.230	9.1887120	8075	10.8112880	64757.195	7	53 1562.978	9.1939529
54 1547.104	9.1895195	8059	10.8104805	64636.901	6	54 1565.958	9.1947802
55 1549.978	9.1903254	8045	10.8096746	64517.059	5	55 1568.938	9.1956059
56 1552.851	9.1911299	8029	10.8088701	64397.666	4	56 1571.919	9.1964302
57 1555.725	9.1919328	8014	10.8080672	64278.719	3	57 1574.900	9.1972530
58 1558.598	9.1927342	7999	10.8072658	64160.216	2	58 1577.881	9.1980743
59 1561.472	9.1935341	7983	10.8064659	64042.154	1	59 1580.862	9.1988941
60 1564.345	9.1943324	7968	10.8056676	63924.532	0	60 1583.844	9.1997125
Diff.			L. Sec.	N. Sec. [81			
				Diff.			

		8	N. Sec.	L. Sec.	D		
10.8521975	71153.697	60	10098.276	10.0042472	178	9.9957528	9902.680
10.8512818	71003.826	59	10098.688	10.0042650	178	9.9957350	9902.275
10.8503679	70854.573	58	10099.103	10.0042828	178	9.9957172	9901.859
10.8494559	70705.934	57	10099.518	10.0043007	179	9.9956993	9901.462
10.8485457	70557.905	56	10099.934	10.0043185	178	9.9956815	9901.054
10.8476373	70410.482	55	10100.351	10.0043363	180	9.9956635	9900.643
10.8467301	70263.662	54	10100.769	10.0043544	179	9.9956456	9900.236
10.8458261	70117.441	53	10101.188	10.0043724	180	9.9956276	9899.826
10.8449231	69971.806	52	10101.607	10.0043905	181	9.9956095	9899.415
10.8440220	69826.781	51	10102.027	10.0044085	180	9.9955915	9899.003
10.8431227	69682.335	50	10102.448	10.0044266	181	9.9955734	9898.590
10.8422252	69538.473	49	10102.870	10.0044448	182	9.9955552	9898.176
10.8413294	69395.192	48	10103.293	10.0044630	182	9.9955370	9897.762
10.8404354	69252.489	47	10103.717	10.0044812	182	9.9955188	9897.347
10.8395431	69110.359	46	10104.142	10.0044995	183	9.9955005	9896.931
10.8386527	68968.799	45	10104.568	10.0045178	183	9.9954822	9896.514
10.8377639	68827.807	44	10104.995	10.0045361	183	9.9954639	9896.096
10.8368769	68687.378	43	10105.423	10.0045545	184	9.9954455	9895.677
10.8359917	68547.508	42	10105.851	10.0045729	184	9.9954271	9895.257
10.8351181	68408.196	41	10106.280	10.0045913	184	9.9954087	9894.837
10.8342263	68269.437	40	10106.710	10.0046098	185	9.9953902	9894.416
10.8333462	68131.227	39	10107.141	10.0046283	185	9.9953717	9893.994
10.8324678	67993.565	38	10107.573	10.0046469	186	9.9953531	9893.571
10.8315911	67856.446	37	10108.006	10.0046655	186	9.9953345	9893.147
10.8307161	67719.867	36	10108.440	10.0046841	187	9.9953159	9892.723
10.8298428	67583.826	35	10108.875	10.0047028	187	9.9952972	9892.298
10.8289711	67448.319	34	10109.311	10.0047215	188	9.9952785	9891.872
10.8281011	67313.341	33	10109.747	10.0047403	188	9.9952597	9891.445
10.8272328	67178.891	32	10110.184	10.0047591	188	9.9952409	9891.017
10.8263662	67044.966	31	10110.622	10.0047779	188	9.9952221	9890.588
10.8255012	66911.562	30	10111.061	10.0047967	189	9.9952033	9890.158
10.8246378	66778.677	29	10111.501	10.0048156	190	9.9951844	9889.728
10.8237761	66646.307	28	10111.942	10.0048346	190	9.9951654	9889.297
10.8229160	66514.449	27	10112.384	10.0048536	190	9.9951464	9888.865
10.8220575	66383.100	26	10112.827	10.0048726	190	9.9951274	9888.432
10.8212007	66252.258	25	10113.271	10.0048916	191	9.9951084	9887.998
10.8203454	66121.919	24	10113.715	10.0049107	191	9.9950893	9887.563
10.8194918	65992.080	23	10114.160	10.0049298	192	9.9950702	9887.128
10.8186398	65862.739	22	10114.606	10.0049490	192	9.9950510	9886.692
10.8177894	65733.892	21	10115.053	10.0049682	192	9.9950318	9886.255
10.8169405	65605.538	20	10115.501	10.0049874	193	9.9950126	9885.817
10.8160932	65477.672	19	10115.950	10.0050067	193	9.9949933	9885.378
10.8152475	65350.293	18	10116.400	10.0050260	193	9.9949740	9884.938
10.8144034	65223.396	17	10116.851	10.0050454	194	9.9949546	9884.498
10.8135608	65096.981	16	10117.303	10.0050648	194	9.9949352	9884.057
10.8127198	64971.043	15	10117.756	10.0050842	194	9.9949158	9883.615
10.8118804	64845.581	14	10118.209	10.0051036	195	9.9948964	9883.172
10.8110425	64720.591	13	10118.663	10.0051231	195	9.9948769	9882.728
10.8102061	64596.070	12	10119.118	10.0051427	196	9.9948573	9882.283
10.8093713	64472.017	11	10119.574	10.0051623	196	9.9948377	9881.838
10.8085379	64348.428	10	10120.031	10.0051819	196	9.9948181	9881.392
10.8077061	64225.301	9	10120.489	10.0052015	197	9.9947985	9880.945
10.8068759	64102.633	8	10120.948	10.0052212	197	9.9947788	9880.497
10.8060471	63980.422	7	10121.408	10.0052409	198	9.9947591	9880.048
10.8052198	63858.665	6	10121.869	10.0052607	198	9.9947393	9879.598
10.8043941	63737.359	5	10122.331	10.0052805	198	9.9947195	9879.148
10.8035698	63616.502	4	10122.793	10.0053003	199	9.9946997	9878.697
10.8027470	63496.092	3	10123.256	10.0053202	199	9.9946798	9878.245
10.8019257	63376.126	2	10123.720	10.0053401	200	9.9946599	9877.792
10.8011059	63256.601	1	10124.185	10.0053601	200	9.9946399	9877.338
10.8002875	63137.515	0	10124.651	10.0053801	200	9.9946199	9876.883
L. Tan.	N. Tan. 81				D	L. Sin.	N. Sin. 81

N. Sir.	L. Sin.	Diff.			9	N. Tan.	L. Tan.	Diff.
1564.345	9.1943324		10.8056676	63924.53260	0	1583.846	9.1997125	3169
1567.218	9.1951293	7969	10.8048707	63807.34759	1	1586.826	9.2005294	3155
1570.091	9.1959247	7954	10.8040753	63690.59558	2	1589.808	9.2013449	3139
1572.963	9.1967186	7939	10.8032814	63574.27657	3	1592.791	9.2021588	3126
1575.836	9.1975110	7924	10.8024890	63458.38656	4	1595.774	9.2029714	3111
1578.708	9.1983019	7909	10.8016981	63342.92355	5	1598.757	9.2037825	3097
1581.581	9.1990913	7894	10.8009087	63227.88454	6	1601.740	9.2045923	3082
1584.453	9.1998792	7880	10.8001207	63113.26953	7	1604.724	9.2054004	3068
1587.325	9.2006658	7865	10.7993342	62999.07352	8	1607.708	9.2062072	3054
1590.197	9.2014509	7851	10.7985491	62885.29551	9	1610.692	9.2070126	3039
1593.069	9.2022345	7836	10.7977655	62771.93350	10	1613.677	9.2078165	3025
1595.940	9.2030167	7822	10.7969833	62658.98449	11	1616.662	9.2086191	3011
1598.812	9.2037974	7807	10.7962026	62546.44648	12	1619.647	9.2094200	2997
1601.683	9.2045766	7792	10.7954234	62434.31647	13	1622.632	9.2102200	2984
1604.555	9.2053545	7777	10.7946455	62322.59446	14	1625.617	9.2110188	2969
1607.426	9.2061309	7764	10.7938691	62211.27545	15	1628.603	9.2118155	2956
1610.297	9.2069059	7750	10.7930941	62100.35944	16	1631.589	9.2126109	2942
1613.167	9.2076795	7736	10.7923205	61989.84343	17	1634.576	9.2134055	2929
1616.038	9.2084516	7721	10.7915484	61879.72542	18	1637.563	9.2141980	2914
1618.909	9.2092224	7708	10.7907776	61770.00341	19	1640.550	9.2149894	2901
1621.779	9.2099917	7693	10.7900083	61660.67440	20	1643.537	9.2157795	2888
1624.650	9.2107597	7580	10.7892403	61551.73639	21	1646.525	9.2165683	2874
1627.520	9.2115253	7666	10.7884737	61443.18938	22	1649.513	9.2173556	2861
1630.390	9.2122914	7651	10.7877086	61335.02837	23	1652.501	9.2181417	2847
1633.260	9.2130552	7638	10.7869448	61227.25336	24	1655.489	9.2189264	2833
1636.129	9.2138176	7624	10.7861824	61119.86135	25	1658.478	9.2197097	2820
1638.999	9.2145787	7611	10.7854213	61012.85034	26	1661.467	9.2204917	2807
1641.868	9.2153384	7697	10.7846616	60906.21933	27	1664.456	9.2212724	2794
1644.738	9.2160967	7593	10.7839033	60799.96432	28	1667.446	9.2220518	2780
1647.607	9.2168536	7579	10.7831464	60694.08531	29	1670.436	9.2228298	2767
1650.476	9.2176092	7566	10.7823908	60588.58030	30	1673.426	9.2236065	2754
1653.345	9.2183635	7543	10.7816365	60483.44529	31	1676.416	9.2243819	2742
1656.214	9.2191164	7529	10.7808836	60378.68028	32	1679.407	9.2251561	2728
1659.082	9.2198680	7516	10.7801320	60274.28227	33	1682.398	9.2259289	2715
1661.951	9.2206182	7502	10.7793818	60170.25026	34	1685.389	9.2267004	2702
1664.819	9.2213671	7489	10.7786329	60066.58125	35	1688.381	9.2274706	2689
1667.687	9.2221147	7476	10.7778843	59963.27424	36	1691.373	9.2282395	2676
1670.555	9.2228609	7462	10.7771391	59860.32623	37	1694.365	9.2290071	2664
1673.423	9.2236059	7450	10.7763941	59757.73722	38	1697.358	9.2297735	2651
1676.291	9.2243495	7436	10.7756505	59655.50421	39	1700.351	9.2305386	2638
1679.159	9.2250918	7423	10.7749082	59553.62520	40	1703.344	9.2313024	2626
1682.026	9.2258328	7410	10.7741672	59452.09819	41	1706.337	9.2320650	2612
1684.894	9.2265725	7397	10.7734275	59350.92218	42	1709.331	9.2328262	2601
1687.761	9.2273110	7385	10.7726890	59250.09517	43	1712.325	9.2335863	2588
1690.628	9.2280518	7371	10.7719519	59149.61416	44	1715.319	9.2343451	2575
1693.495	9.2287839	7358	10.7712161	59049.47915	45	1718.314	9.2351025	2563
1696.362	9.2295185	7346	10.7704815	58949.68814	46	1721.309	9.2358589	2550
1699.228	9.2302518	7333	10.7697482	58850.23813	47	1724.304	9.2366139	2539
1702.095	9.2309838	7320	10.7690162	58751.12812	48	1727.300	9.2373678	2525
1704.961	9.2317145	7307	10.7682855	58652.35611	49	1730.296	9.2381203	2514
1707.828	9.2324440	7295	10.7675560	58553.92010	50	1733.292	9.2388717	2501
1710.694	9.2331722	7282	10.7668278	58455.82009	51	1736.288	9.2396218	2490
1713.560	9.2338992	7270	10.7661008	58358.05308	52	1739.285	9.2403708	2477
1716.425	9.2346249	7257	10.7653751	58260.61707	53	1742.282	9.2411185	2465
1719.291	9.2353494	7245	10.7646506	58163.51006	54	1745.279	9.2418650	2453
1722.156	9.2360726	7232	10.7639274	58066.73205	55	1748.277	9.2426103	2443
1725.022	9.2367946	7220	10.7632054	57970.28004	56	1751.275	9.2433543	2432
1727.887	9.2375153	7207	10.7624847	57874.15303	57	1754.273	9.2440972	2421
1730.752	9.2382349	7196	10.7617651	57778.35002	58	1757.272	9.2448389	2410
1733.617	9.2389532	7183	10.7610468	57682.86701	59	1760.271	9.2455794	2400
1736.482	9.2396702	7170	10.7603298	57587.70500	60	1763.270	9.2463188	2394
		Diff.	L. Sec.	N. Sec. 8c				Diff.

		9	N. Dec.	L. Dec.	D		
0.8002875	63137.515	60	10124.651	10.0053801	200	9.9946199	9876.883
0.7994706	63018.866	59	10125.118	10.0054001	200	9.9945929	9876.428
0.7986551	62900.651	58	210125.586	10.0054202	201	9.9945798	9875.972
0.7978414	62782.868	57	310126.055	10.0054403	201	9.9945597	9875.515
0.7970286	62665.514	56	410126.525	10.0054604	201	9.9945396	9875.057
0.7962175	62548.588	55	510126.996	10.0054806	202	9.9945194	9874.598
0.7954078	62432.086	54	610127.467	10.0055008	202	9.9944992	9874.135
0.7945996	62316.007	53	710127.939	10.0055211	203	9.9944789	9873.677
0.7937928	62200.347	52	810128.412	10.0055413	202	9.9944587	9873.216
0.7929874	62085.106	51	910128.886	10.0055617	204	9.9944383	9872.754
0.7921835	61970.279	50	1010129.361	10.0055820	203	9.9944180	9872.291
0.7913805	61855.867	49	1110129.837	10.0056025	205	9.9943975	9871.827
0.7905797	61741.865	48	1210130.314	10.0056229	204	9.9943771	9871.362
0.7897800	61628.272	47	1310130.792	10.0056434	205	9.9943566	9870.897
0.7889816	61515.085	46	1410131.271	10.0056639	205	9.9943361	9870.431
0.7881847	61402.303	45	1510131.751	10.0056844	205	9.9943156	9869.964
0.7873891	61289.923	44	1610132.231	10.0057050	206	9.9942950	9869.496
0.7865949	61177.943	43	1710132.712	10.0057257	207	9.9942743	9869.027
0.7858020	61066.360	42	1810133.194	10.0057463	206	9.9942537	9868.557
0.7850106	60955.174	41	1910133.677	10.0057670	207	9.9942330	9868.086
0.7842205	60844.381	40	2010134.161	10.0057878	208	9.9942122	9867.615
0.7834317	60733.979	39	2110134.646	10.0058086	208	9.9941914	9867.143
0.7826444	60623.907	38	2210135.132	10.0058294	208	9.9941706	9866.670
0.7818583	60514.343	37	2310135.619	10.0058502	208	9.9941498	9866.196
0.7810736	60405.103	36	2410136.107	10.0058711	209	9.9941289	9865.721
0.7802903	60296.247	35	2510136.595	10.0058921	210	9.9941079	9865.246
0.7795083	60187.772	34	2610137.084	10.0059130	209	9.9940870	9864.770
0.7787276	60079.676	33	2710137.574	10.0059341	211	9.9940659	9864.293
0.7779482	59971.957	32	2810138.065	10.0059551	210	9.9940449	9863.815
0.7771702	59864.614	31	2910138.557	10.0059762	211	9.9940238	9863.336
0.7763935	59757.644	30	3010139.050	10.0059973	211	9.9940027	9862.856
0.7756181	59651.045	29	3110139.544	10.0060185	212	9.9939815	9862.375
0.7748439	59544.815	28	3210140.039	10.0060397	214	9.9939603	9861.894
0.7740711	59438.952	27	3310140.535	10.0060609	212	9.9939391	9861.412
0.7732996	59333.455	26	3410141.032	10.0060822	213	9.9939178	9860.929
0.7725294	59228.322	25	3510141.530	10.0061035	213	9.9938965	9860.445
0.7717605	59123.550	24	3610142.029	10.0061248	213	9.9938752	9859.960
0.7709929	59019.138	23	3710142.529	10.0061462	214	9.9938538	9859.474
0.7702265	58915.084	22	3810143.029	10.0061676	214	9.9938324	9858.988
0.7694614	58811.386	21	3910143.530	10.0061891	215	9.9938109	9858.501
0.7686976	58708.042	20	4010144.032	10.0062106	215	9.9937894	9858.013
0.7679350	58605.051	19	4110144.535	10.0062321	215	9.9937679	9857.524
0.7671738	58502.410	18	4210145.039	10.0062537	216	9.9937465	9857.034
0.7664137	58400.117	17	4310145.544	10.0062753	216	9.9937247	9856.544
0.7656549	58298.172	16	4410146.050	10.0062970	217	9.9937030	9856.053
0.7648974	58196.572	15	4510146.557	10.0063187	217	9.9936813	9855.561
0.7641411	58095.315	14	4610147.064	10.0063404	218	9.9936596	9855.068
0.7633861	57994.400	13	4710147.572	10.0063622	218	9.9936378	9854.574
0.7626322	57893.825	12	4810148.081	10.0063840	218	9.9936160	9854.079
0.7618797	57793.588	11	4910148.591	10.0064058	218	9.9935942	9853.583
0.7611283	57693.688	10	5010149.102	10.0064277	219	9.9935723	9853.087
0.7603782	57594.122	9	5110149.614	10.0064496	219	9.9935504	9852.590
0.7596292	57494.889	8	5210150.127	10.0064715	219	9.9935285	9852.092
0.7588815	57395.988	7	5310150.641	10.0064935	220	9.9935065	9851.593
0.7581350	57297.416	6	5410151.156	10.0065156	221	9.9934844	9851.093
0.7573897	57199.173	5	5510151.672	10.0065376	220	9.9934624	9850.592
0.7566457	57101.256	4	5610152.189	10.0065597	221	9.9934403	9850.091
0.7559028	57003.663	3	5710152.707	10.0065819	222	9.9934181	9849.589
0.7551611	56906.394	2	5810153.226	10.0066041	222	9.9933959	9849.086
0.7544206	56809.441	1	5910153.746	10.0066263	222	9.9933737	9848.582
0.7536812	56712.818	0	6010154.267	10.0066485	222	9.9933515	9848.077
L. Tan.	N. Tan.	80			D	L. Sin.	N. Sin.

10	N. Sin.	L. Sin.	Diff.			10	N. Tan.	L. Tan.	Diff.
0	1736.482	9.2396702		10	7603298	57587.705	60	1763.270	9.2463188
1	1739.346	9.2402861	7159	10	7596139	57492.861	59	1766.269	9.2470569
2	1742.211	9.2411007	7146	10	7588993	57398.333	58	1769.269	9.2477939
3	1745.075	9.2418141	7134	10	7581859	57304.121	57	1772.269	9.2485297
4	1747.935	9.2425264	7123	10	7574736	57210.223	56	1775.269	9.2492643
5	1750.803	9.2432374	7110	10	7567626	57116.636	55	1778.270	9.2499978
6	1753.667	9.2439472	7098	10	7560528	57023.360	54	1781.271	9.2507301
7	1756.531	9.2446558	7086	10	7553442	56930.393	53	1784.272	9.2514612
8	1759.395	9.2453632	7074	10	7546368	56837.724	52	1787.274	9.2521912
9	1762.255	9.2460695	7063	10	7539305	56745.380	51	1790.276	9.2529200
10	1765.121	9.2467746	7051	10	7532254	56653.331	50	1793.278	9.2536477
11	1767.984	9.2474784	7038	10	7525216	56561.584	49	1796.281	9.2543743
12	1770.847	9.2481811	7026	10	7518189	56470.143	48	1799.284	9.2550997
13	1773.710	9.2488827	7016	10	7511173	56378.995	47	1802.287	9.2558240
14	1776.573	9.2495830	7003	10	7504170	56288.148	46	1805.291	9.2565472
15	1779.435	9.2502822	6992	10	7497178	56197.599	45	1808.295	9.2572693
16	1782.298	9.2509803	6981	10	7490197	56107.345	44	1811.299	9.2579901
17	1785.160	9.2516772	6969	10	7483228	56017.386	43	1814.303	9.2587099
18	1788.021	9.2523729	6957	10	7476271	55927.719	42	1817.308	9.2594285
19	1790.884	9.2530675	6946	10	7469325	55838.343	41	1820.313	9.2601461
20	1793.746	9.2537609	6934	10	7462391	55749.258	40	1823.318	9.2608626
21	1796.607	9.2544532	6923	10	7455468	55660.460	39	1826.324	9.2615779
22	1799.469	9.2551444	6912	10	7448546	55571.950	38	1829.330	9.2622921
23	1802.330	9.2558344	6900	10	7441656	55483.726	37	1832.336	9.2630053
24	1805.191	9.2565233	6889	10	7434767	55395.786	36	1835.343	9.2637173
25	1808.052	9.2572110	6877	10	7427890	55308.129	35	1838.350	9.2644283
26	1810.913	9.2578977	6865	10	7421023	55220.754	34	1841.357	9.2651382
27	1813.774	9.2585832	6854	10	7414168	55133.659	33	1844.365	9.2658470
28	1816.635	9.2592676	6843	10	7407324	55046.843	32	1847.373	9.2665547
29	1819.495	9.2599509	6833	10	7400491	54960.305	31	1850.381	9.2672613
30	1822.355	9.2606330	6821	10	7393670	54874.043	30	1853.390	9.2679669
31	1825.215	9.2613141	6811	10	7386859	54788.055	29	1856.399	9.2686714
32	1828.075	9.2619941	6800	10	7380059	54702.342	28	1859.408	9.2693749
33	1830.935	9.2626729	6788	10	7373271	54616.901	27	1862.418	9.2700772
34	1833.795	9.2633507	6778	10	7366493	54531.731	26	1865.428	9.2707786
35	1836.654	9.2640274	6767	10	7359726	54446.831	25	1868.438	9.2714788
36	1839.513	9.2647030	6756	10	7352970	54362.199	24	1871.449	9.2721780
37	1842.373	9.2653775	6745	10	7346225	54277.835	23	1874.460	9.2728762
38	1845.232	9.2660509	6734	10	7339491	54193.737	22	1877.471	9.2735733
39	1848.091	9.2667232	6723	10	7332768	54109.903	21	1880.483	9.2742694
40	1850.945	9.2673945	6713	10	7326055	54026.333	20	1883.495	9.2749644
41	1853.808	9.2680647	6702	10	7319353	53943.026	19	1886.507	9.2756584
42	1856.666	9.2687338	6691	10	7312662	53859.979	18	1889.520	9.2763514
43	1859.524	9.2694019	6681	10	7305981	53777.192	17	1892.533	9.2770434
44	1862.382	9.2700689	6670	10	7299311	53694.664	16	1895.546	9.2777343
45	1865.240	9.2707348	6659	10	7292652	53612.393	15	1898.559	9.2784242
46	1868.098	9.2713997	6649	10	7286003	53530.379	14	1901.573	9.2791131
47	1870.956	9.2720635	6638	10	7279365	53448.620	13	1904.587	9.2798009
48	1873.815	9.2727263	6628	10	7272737	53367.114	12	1907.602	9.2804878
49	1876.670	9.2733880	6617	10	7266120	53285.861	11	1910.617	9.2811736
50	1879.527	9.2740487	6607	10	7259513	53204.860	10	1913.632	9.2818585
51	1882.384	9.2747083	6596	10	7252917	53124.109	9	1916.648	9.2825423
52	1885.241	9.2753669	6586	10	7246331	53043.608	8	1919.664	9.2832251
53	1888.098	9.2760245	6576	10	7239755	52963.354	7	1922.680	9.2839070
54	1890.954	9.2766811	6566	10	7233189	52883.347	6	1925.696	9.2845879
55	1893.811	9.2773366	6555	10	7226634	52803.587	5	1928.713	9.2852677
56	1896.667	9.2779911	6545	10	7220089	52724.070	4	1931.730	9.2859465
57	1899.523	9.2786445	6534	10	7213555	52644.798	3	1934.748	9.2866243
58	1902.379	9.2792970	6525	10	7207030	52565.768	2	1937.766	9.2873011
59	1905.234	9.2799484	6514	10	7200516	52486.979	1	1940.784	9.2879773
60	1908.090	9.2805988	6504	10	7194012	52408.431	0	1943.802	9.2886523
			Diff.	L. Sec.	N. Sec.	79			Diff.

			N. Sec.	L. Sec.	D		
10.7536812	56712.818	60	10154.267	10.0066485	223	9.9933315	9848.077
10.7529431	56616.509	59	10154.788	10.0066708	224	9.9933292	9847.571
10.7522061	56520.516	58	10155.310	10.0066932	225	9.9933068	9847.065
10.7514703	56424.838	57	10155.833	10.0067155	226	9.9932845	9846.558
10.7507357	56329.474	56	10156.357	10.0067379	227	9.9932621	9846.050
10.7500022	56234.421	55	10156.882	10.0067603	228	9.9932396	9845.541
10.7492699	56139.680	54	10157.408	10.0067829	229	9.9932171	9845.031
10.7485388	56045.247	53	10157.935	10.0068054	230	9.9931946	9844.521
10.7478088	55951.121	52	10158.463	10.0068280	231	9.9931720	9844.010
10.7470800	55857.302	51	10158.992	10.0068506	232	9.9931494	9843.498
10.7463523	55763.785	50	10159.521	10.0068732	233	9.9931268	9842.985
10.7456257	55670.574	49	10160.051	10.0068959	234	9.9931041	9842.471
10.7449003	55577.663	48	10160.582	10.0069186	235	9.9930814	9841.956
10.7441760	55485.052	47	10161.114	10.0069413	236	9.9930587	9841.440
10.7434528	55392.740	46	10161.647	10.0069641	237	9.9930359	9840.924
10.7427308	55300.724	45	10162.181	10.0069869	238	9.9930131	9840.407
10.7420099	55209.005	44	10162.716	10.0070095	239	9.9929902	9839.889
10.7412861	55117.575	43	10163.252	10.0070322	240	9.9929673	9839.370
10.7405715	55026.446	42	10163.789	10.0070550	241	9.9929444	9838.850
10.7398535	54935.604	41	10164.327	10.0070786	242	9.9929214	9838.329
10.7391375	54845.052	40	10164.866	10.0071016	243	9.9928984	9837.808
10.7384221	54754.788	39	10165.406	10.0071247	244	9.9928753	9837.286
10.7377079	54664.812	38	10165.946	10.0071478	245	9.9928522	9836.763
10.7369947	54575.121	37	10166.487	10.0071705	246	9.9928291	9836.239
10.7362827	54485.715	36	10167.029	10.0071941	247	9.9928059	9835.714
10.7355717	54396.592	35	10167.572	10.0072173	248	9.9927827	9835.189
10.7348618	54307.750	34	10168.116	10.0072405	249	9.9927595	9834.663
10.7341530	54219.188	33	10168.661	10.0072638	250	9.9927362	9834.136
10.7334443	54130.906	32	10169.207	10.0072871	251	9.9927129	9833.608
10.7327387	54042.901	31	10169.754	10.0073105	252	9.9926895	9833.079
10.7320331	53955.172	30	10170.302	10.0073339	253	9.9926661	9832.549
10.7313286	53867.718	29	10170.851	10.0073573	254	9.9926427	9832.018
10.7306251	53780.538	28	10171.401	10.0073808	255	9.9926192	9831.487
10.7299228	53693.630	27	10171.952	10.0074043	256	9.9925957	9830.955
10.7292214	53606.993	26	10172.504	10.0074278	257	9.9925722	9830.422
10.7285212	53520.626	25	10173.056	10.0074514	258	9.9925486	9829.888
10.7278220	53434.527	24	10173.609	10.0074750	259	9.9925250	9829.353
10.7271238	53348.696	23	10174.163	10.0074987	260	9.9925013	9828.817
10.7264267	53263.131	22	10174.718	10.0075224	261	9.9924776	9828.281
10.7257306	53177.830	21	10175.274	10.0075461	262	9.9924539	9827.744
10.7250356	53092.792	20	10175.831	10.0075699	263	9.9924301	9827.206
10.7243416	53008.018	19	10176.389	10.0075937	264	9.9924063	9826.667
10.7236486	52923.505	18	10176.948	10.0076176	265	9.9923824	9826.127
10.7229566	52839.251	17	10177.508	10.0076415	266	9.9923585	9825.587
10.7222657	52755.255	16	10178.069	10.0076654	267	9.9923346	9825.046
10.7215751	52671.517	15	10178.631	10.0076894	268	9.9923105	9824.504
10.7208869	52588.035	14	10179.194	10.0077134	269	9.9922866	9823.961
10.7201991	52504.800	13	10179.758	10.0077374	270	9.9922625	9823.417
10.7195122	52421.836	12	10180.322	10.0077615	271	9.9922385	9822.872
10.7188264	52339.116	11	10180.887	10.0077856	272	9.9922144	9822.327
10.7181415	52256.547	10	10181.453	10.0078098	273	9.9921902	9821.781
10.7174577	52174.422	9	10182.020	10.0078340	274	9.9921660	9821.234
10.7167749	52092.459	8	10182.588	10.0078582	275	9.9921418	9820.686
10.7160930	52010.788	7	10183.157	10.0078825	276	9.9921175	9820.137
10.7154121	51929.264	6	10183.727	10.0079068	277	9.9920932	9819.587
10.7147323	51848.035	5	10184.298	10.0079311	278	9.9920689	9819.036
10.7140534	51767.051	4	10184.870	10.0079555	279	9.9920445	9818.485
10.7133755	51686.311	3	10185.443	10.0079799	280	9.9920201	9817.933
10.7126986	51605.813	2	10186.017	10.0080044	281	9.9919956	9817.380
10.7120227	51525.557	1	10186.592	10.0080289	282	9.9919711	9816.826
10.7113477	51445.540	0	10187.168	10.0080534	283	9.9919466	9816.271
L. Tan.	N. Tan	79				L. Sin.	N. Sin. 79

11 N. Sin.	L. Sin.	Diff.				11 N. Sin.	L. Sin.	Diff.
11908.090	9.2805988	6495	10.7194012	52408.43160		11943.807	9.2886512	5740
11910.945	9.2812483	6495	10.7187517	52330.12159		11946.822	9.2893265	5730
21913.800	9.2818967	6484	10.7181033	52252.05058		21949.841	9.2899993	5720
31916.655	9.2825441	6474	10.7174559	52174.21657		31952.861	9.2906713	5710
41919.510	9.2831905	6464	10.7168095	52096.61856		41955.881	9.2913422	5700
51922.365	9.2838359	6454	10.7161641	52019.25455		51958.901	9.2920126	5690
61925.220	9.2844803	6444	10.7155197	51942.12554		61961.922	9.2926817	5680
71928.075	9.2851237	6434	10.7148763	51865.22853		71964.943	9.2933500	5670
81930.928	9.2857661	6424	10.7142339	51788.56352		81967.964	9.2940172	5660
91933.782	9.2864076	6415	10.7135924	51712.12851		91970.986	9.2946839	5650
101936.636	9.2870480	6404	10.7129520	51635.92450		101974.008	9.2953487	5640
111939.490	9.2876875	6393	10.7123125	51559.94849		111977.030	9.2960124	5630
121942.344	9.2883260	6383	10.7116740	51484.19748		121980.053	9.2966759	5620
131945.197	9.2889636	6376	10.7110364	51408.67747		131983.076	9.2973391	5610
141948.050	9.2896001	6369	10.7103999	51333.38146		141986.100	9.2980011	5600
151950.903	9.2902357	6356	10.7097643	51258.30945		151989.124	9.2986618	5590
161953.756	9.2908704	6347	10.7091296	51183.46144		161992.148	9.2993216	5580
171956.609	9.2915042	6336	10.7084960	51108.83543		171995.172	9.2999804	5570
181959.461	9.2921377	6327	10.7078633	51034.43142		181998.197	9.3006383	5560
191962.314	9.2927705	6318	10.7072315	50960.24841		192001.222	9.3012954	5550
201965.166	9.2933993	6308	10.7066007	50886.28440		202004.248	9.3019511	5540
211968.018	9.2940291	6298	10.7059709	50812.53939		212007.274	9.3026060	5530
221970.870	9.2946588	6289	10.7053420	50739.01238		222010.300	9.3032600	5520
231973.722	9.2952859	6279	10.7047141	50665.70137		232013.327	9.3039143	5510
241976.573	9.2959129	6270	10.7040871	50592.60636		242016.354	9.3045666	5500
251979.425	9.2965390	6261	10.7034610	50519.72635		252019.381	9.3052189	5490
261982.276	9.2971641	6251	10.7028359	50447.06034		262022.409	9.3058688	5480
271985.127	9.2977883	6242	10.7022117	50374.60732		272025.437	9.3065187	5470
281987.978	9.2984116	6233	10.7015884	50302.36731		282028.465	9.3071675	5460
291990.829	9.2990339	6223	10.7009661	50230.33731		292031.494	9.3078151	5450
301993.679	9.2996553	6214	10.7003447	50158.51730		302034.523	9.3084626	5440
311996.530	9.3002758	6205	10.6997242	50086.90729		312037.552	9.3091088	5430
321999.380	9.3008953	6195	10.6991047	50015.50528		322040.582	9.3097541	5420
332002.230	9.3015140	6187	10.6984860	49944.31127		332043.612	9.3103985	5410
342005.080	9.3021317	6177	10.6978683	49873.32326		342046.643	9.3110421	5400
352007.930	9.3027485	6168	10.6972515	49802.54125		352049.674	9.3116848	5390
362010.779	9.3033644	6159	10.6966356	49731.96424		362052.705	9.3123266	5380
372013.629	9.3039794	6150	10.6960206	49661.59123		372055.737	9.3129675	5370
382016.478	9.3045934	6140	10.6954066	49591.42122		382058.769	9.3136078	5360
392019.327	9.3052066	6132	10.6947934	49521.45321		392061.801	9.3142468	5350
402022.176	9.3058189	6122	10.6941811	49451.68720		402064.834	9.3148851	5340
412025.024	9.3064303	6114	10.6935697	49382.12019		412067.867	9.3155226	5330
422027.873	9.3070407	6104	10.6929593	49312.75418		422070.900	9.3161592	5320
432030.721	9.3076503	6096	10.6923497	49243.58617		432073.934	9.3167950	5310
442033.569	9.3082599	6087	10.6917410	49174.61616		442076.968	9.3174299	5300
452036.417	9.3088686	6078	10.6911332	49105.84415		452079.003	9.3180640	5290
462039.265	9.3094773	6068	10.6905263	49037.26714		462082.038	9.3186972	5280
472042.113	9.3100798	6061	10.6899202	48968.88613		472085.073	9.3193295	5270
482044.961	9.3106849	6051	10.6893151	48900.70011		482088.109	9.3199611	5260
492047.808	9.3112892	6043	10.6887108	48832.70711		492091.145	9.3205918	5250
502050.655	9.3118926	6034	10.6881074	48764.97710		502094.181	9.3212216	5240
512053.502	9.3124951	6025	10.6875045	48697.29998		512097.218	9.3218506	5230
522056.349	9.3130968	6017	10.6869032	48629.8838		522100.255	9.3224788	5220
532059.195	9.3136976	6008	10.6863024	48562.6577		532103.293	9.3231051	5210
542062.042	9.3142975	5999	10.6857025	48495.6216		542106.331	9.3237307	5200
552064.888	9.3148965	5990	10.6851035	48428.7745		552109.369	9.3243558	5190
562067.734	9.3154943	5982	10.6845053	48362.1144		562112.407	9.3249803	5180
572070.580	9.3160921	5974	10.6839079	48295.6433		572115.446	9.3256043	5170
582073.426	9.3166885	5964	10.6833115	48229.3572		582118.485	9.3262280	5160
592076.271	9.3172841	5956	10.6827159	48163.2581		592121.525	9.3268515	5150
602079.117	9.3178785	5948	10.6821211	48097.3430		602124.565	9.3274745	5140
		Diff.	L. Sec.	N. Sec.	78			Diff.

		I. N. Sec.	L. Sec.	D.		
10.7113477	51445.540	60	010187.168	10.0080534	9.9919466	9816.271
10.7106737	51365.763	59	110187.744	10.0080780	9.9919220	9815.716
10.7100007	51288.224	58	210188.321	10.0081026	9.9918974	9815.160
10.7093287	51206.921	57	310188.899	10.0081273	9.9918727	9814.603
10.7086576	51127.855	56	410189.478	10.0081520	9.9918480	9814.045
10.7079874	51049.024	55	510190.058	10.0081766	9.9918233	9813.486
10.7073183	50970.426	54	610190.639	10.0082014	9.9917986	9812.926
10.7066500	50892.061	53	710191.221	10.0082263	9.9917737	9812.366
10.7059828	50813.928	52	810191.804	10.0082511	9.9917489	9811.805
10.7053164	50736.025	51	910192.388	10.0082760	9.9917240	9811.243
10.7046511	50658.352	50	1010192.973	10.0083009	9.9916991	9810.680
10.7039866	50580.907	49	1110193.559	10.0083256	9.9916741	9810.116
10.7033231	50503.690	48	1210194.146	10.0083508	9.9916492	9809.551
10.7026605	50426.700	47	1310194.734	10.0083759	9.9916241	9808.986
10.7019989	50349.735	46	1410195.323	10.0084010	9.9915990	9808.420
10.7013382	50273.395	45	1510195.912	10.0084261	9.9915739	9807.853
10.7006784	50197.078	44	1610196.502	10.0084511	9.9915488	9807.285
10.7000196	50120.984	43	1710197.093	10.0084764	9.9915236	9806.716
10.6993617	50045.111	42	1810197.685	10.0085016	9.9914984	9806.146
10.6987046	49969.453	41	1910198.278	10.0085269	9.9914731	9805.576
10.6980486	49894.027	40	2010198.872	10.0085523	9.9914478	9805.005
10.6973934	49818.513	39	2110199.467	10.0085775	9.9914225	9804.433
10.6967391	49743.817	38	2210200.063	10.0086029	9.9913971	9803.860
10.6960857	49669.037	37	2310200.660	10.0086283	9.9913717	9803.286
10.6954333	49594.474	36	2410201.258	10.0086538	9.9913462	9802.711
10.6947817	49520.125	35	2510201.857	10.0086793	9.9913207	9802.136
10.6941311	49445.990	34	2610202.457	10.0087048	9.9912952	9801.560
10.6934813	49372.068	33	2710203.058	10.0087304	9.9912696	9800.983
10.6928325	49298.358	32	2810203.660	10.0087560	9.9912440	9800.405
10.6921845	49224.859	31	2910204.263	10.0087816	9.9912184	9799.826
10.6915374	49151.570	30	3010204.867	10.0088073	9.9911927	9799.247
10.6908912	49078.491	29	3110205.471	10.0088330	9.9911670	9798.667
10.6902459	49005.602	28	3210206.076	10.0088588	9.9911412	9798.086
10.6896015	48932.956	27	3310206.682	10.0088846	9.9911154	9797.504
10.6889579	48860.499	26	3410207.289	10.0089104	9.9910896	9796.921
10.6883152	48788.248	25	3510207.897	10.0089363	9.9910637	9796.337
10.6876734	48716.201	24	3610208.506	10.0089622	9.9910378	9795.752
10.6870325	48644.359	23	3710209.116	10.0089881	9.9910119	9795.167
10.6863924	48572.719	22	3810209.727	10.0090141	9.9909859	9794.581
10.6857532	48501.282	21	3910210.339	10.0090402	9.9909598	9793.994
10.6851149	48430.045	20	4010210.952	10.0090662	9.9909338	9793.400
10.6844774	48359.010	19	4110211.566	10.0090923	9.9909077	9792.817
10.6838408	48288.174	18	4210212.181	10.0091185	9.9908815	9792.228
10.6832050	48217.536	17	4310212.797	10.0091447	9.9908553	9791.638
10.6825701	48147.096	16	4410213.414	10.0091709	9.9908291	9791.047
10.6819360	48076.854	15	4510214.032	10.0091971	9.9908029	9790.455
10.6813028	48006.808	14	4610214.650	10.0092234	9.9907766	9789.862
10.6806705	47936.957	13	4710215.269	10.0092498	9.9907502	9789.268
10.6800388	47867.300	12	4810215.889	10.0092761	9.9907239	9788.674
10.6794082	47797.837	11	4910216.510	10.0093026	9.9906974	9788.079
10.6787784	47728.567	10	5010217.132	10.0093290	9.9906710	9787.483
10.6781494	47659.490	9	5110217.755	10.0093555	9.9906445	9786.886
10.6775212	47590.603	8	5210218.379	10.0093820	9.9906180	9786.288
10.6768939	47521.907	7	5310219.001	10.0094086	9.9905914	9785.689
10.6762673	47453.401	6	5410219.630	10.0094352	9.9905648	9785.090
10.6756416	47385.083	5	5510220.257	10.0094618	9.9905383	9784.490
10.6750168	47316.954	4	5610220.885	10.0094885	9.9905115	9783.889
10.6743927	47249.012	3	5710221.514	10.0095152	9.9904848	9783.287
10.6737695	47181.256	2	5810222.144	10.0095420	9.9904580	9782.684
10.6731471	47113.686	1	5910222.775	10.0095688	9.9904312	9782.080
10.6725255	47046.301	0	6010223.407	10.0095956	9.9904044	9781.476
L. Tan.	N. Tan.	78			D. L. Sin.	N. Sin.

12	N. Siu.	L. Sin.	Diff.			12	N. Tan.	L. Tan.	Diff.
0	2079.117	9.3178789	10.6821211	48097.343	60	0	2125.565	9.3274745	6208
1	2081.962	9.3184728	5939	10.6815272	48031.613	1	2128.606	9.3280953	6208
2	2084.807	9.3190669	5931	10.6809341	47966.066	2	2131.647	9.3287153	6208
3	2087.652	9.3196581	5922	10.6803419	47900.702	3	2134.688	9.3293345	6208
4	2090.497	9.3202495	5914	10.6797505	47835.528	4	2137.730	9.3299528	6208
5	2093.341	9.3208400	5905	10.6791600	47770.519	5	2140.772	9.3305704	6208
6	2096.186	9.3214297	5897	10.6785703	47705.699	6	2143.814	9.3311871	6208
7	2099.030	9.3220186	5889	10.6779814	47641.058	7	2146.857	9.3318031	6208
8	2101.874	9.3226066	5880	10.6773934	47576.596	8	2149.900	9.3324188	6208
9	2104.718	9.3231938	5872	10.6768062	47512.312	9	2152.944	9.3330347	6208
10	2107.561	9.3237802	5864	10.6762198	47448.206	10	2155.988	9.3336497	6208
11	2110.405	9.3243657	5855	10.6756343	47384.277	11	2159.032	9.3342651	6208
12	2113.248	9.3249505	5848	10.6750495	47320.523	12	2162.077	9.3348811	6208
13	2116.091	9.3255344	5839	10.6744656	47256.945	13	2165.122	9.3354971	6208
14	2118.934	9.3261174	5830	10.6738826	47193.542	14	2168.167	9.3361131	6208
15	2121.777	9.3266997	5823	10.6733003	47130.313	15	2171.213	9.3367291	6208
16	2124.619	9.3272811	5814	10.6727189	47067.256	16	2174.259	9.3373451	6208
17	2127.462	9.3278617	5806	10.6721383	47004.372	17	2177.306	9.3379611	6208
18	2130.304	9.3284416	5799	10.6715584	46941.660	18	2180.353	9.3385767	6208
19	2133.145	9.3290206	5790	10.6709794	46879.119	19	2183.400	9.3391923	6208
20	2135.988	9.3295988	5782	10.6704012	46816.748	20	2186.448	9.3398079	6208
21	2138.829	9.3301761	5773	10.6698239	46754.548	21	2189.496	9.3404235	6208
22	2141.671	9.3307527	5766	10.6692473	46692.516	22	2192.544	9.3410391	6208
23	2144.512	9.3313285	5758	10.6686715	46630.652	23	2195.593	9.3416547	6208
24	2147.353	9.3319035	5750	10.6680965	46568.956	24	2198.642	9.3422703	6208
25	2150.194	9.3324777	5742	10.6675223	46507.427	25	2201.692	9.3428859	6208
26	2153.035	9.3330511	5734	10.6669489	46446.064	26	2204.742	9.3435015	6208
27	2155.876	9.3336237	5726	10.6663763	46384.867	27	2207.793	9.3441171	6208
28	2158.716	9.3341955	5718	10.6658045	46323.835	28	2210.844	9.3447327	6208
29	2161.556	9.3347665	5710	10.6652335	46262.967	29	2213.895	9.3453483	6208
30	2164.396	9.3353368	5703	10.6646632	46202.263	30	2216.947	9.3459639	6208
31	2167.236	9.3359052	5694	10.6640938	46141.722	31	2219.999	9.3465795	6208
32	2170.076	9.3364749	5687	10.6635251	46081.343	32	2223.051	9.3471951	6208
33	2172.915	9.3370428	5679	10.6629572	46021.126	33	2226.104	9.3478107	6208
34	2175.754	9.3376099	5671	10.6623901	45961.070	34	2229.157	9.3484263	6208
35	2178.593	9.3381762	5663	10.6618238	45901.174	35	2232.211	9.3490419	6208
36	2181.432	9.3387418	5656	10.6612582	45841.439	36	2235.265	9.3496575	6208
37	2184.271	9.3393065	5647	10.6606935	45781.862	37	2238.319	9.3502731	6208
38	2187.110	9.3398706	5639	10.6601294	45722.444	38	2241.374	9.3508887	6208
39	2189.948	9.3404333	5632	10.6595662	45663.183	39	2244.429	9.3515043	6208
40	2192.786	9.3409963	5625	10.6590037	45604.080	40	2247.485	9.3521199	6208
41	2195.624	9.3415580	5617	10.6584420	45545.134	41	2250.541	9.3527355	6208
42	2198.462	9.3421190	5610	10.6578810	45486.344	42	2253.597	9.3533511	6208
43	2201.300	9.3426792	5602	10.6573208	45427.709	43	2256.654	9.3539667	6208
44	2204.137	9.3432386	5594	10.6567614	45369.229	44	2259.711	9.3545823	6208
45	2206.974	9.3437973	5587	10.6562027	45310.903	45	2262.769	9.3551979	6208
46	2209.811	9.3443552	5579	10.6556448	45252.730	46	2265.827	9.3558135	6208
47	2212.648	9.3449124	5572	10.6550876	45194.711	47	2268.885	9.3564291	6208
48	2215.485	9.3454688	5564	10.6545312	45136.844	48	2271.944	9.3570447	6208
49	2218.321	9.3460245	5557	10.6539755	45079.129	49	2275.003	9.3576603	6208
50	2221.158	9.3465794	5549	10.6534205	45021.565	50	2278.063	9.3582759	6208
51	2223.994	9.3471336	5542	10.6528664	44964.152	51	2281.123	9.3588915	6208
52	2226.830	9.3476870	5534	10.6523130	44906.889	52	2284.183	9.3595071	6208
53	2229.666	9.3482397	5527	10.6517603	44849.775	53	2287.244	9.3601227	6208
54	2232.501	9.3487917	5520	10.6512083	44792.810	54	2290.305	9.3607383	6208
55	2235.337	9.3493429	5512	10.6506571	44735.993	55	2293.367	9.3613539	6208
56	2238.172	9.3498934	5505	10.6501066	44679.324	56	2296.429	9.3619695	6208
57	2241.007	9.3504432	5498	10.6495568	44622.803	57	2299.492	9.3625851	6208
58	2243.841	9.3509922	5490	10.6490078	44566.428	58	2302.555	9.3632007	6208
59	2246.676	9.3515405	5483	10.6484595	44510.198	59	2305.618	9.3638163	6208
60	2249.511	9.3520880	5475	10.6479120	44454.115	60	2308.682	9.3644319	6208
			Diff.	L. Sec.	N. Sec.				Diff.

			121	N. Sec.	L. Sec.	D.			
10.6725255	47046.301	60	0	10223.407	10.0095956	269	9.9904044	9781.476	50
10.6719047	46979.100	59	1	10224.040	10.0096225	269	9.9903775	9780.871	59
10.6712847	46912.083	58	2	10224.673	10.0096494	269	9.9903506	9780.265	58
10.6706655	46845.248	57	3	10225.307	10.0096763	269	9.9903237	9779.658	57
10.6700472	46778.595	56	4	10225.942	10.0097033	270	9.9902967	9779.050	56
10.6694296	46712.124	55	5	10226.578	10.0097303	270	9.9902697	9778.441	55
10.6688128	46645.832	54	6	10227.215	10.0097574	271	9.9902426	9777.832	54
10.6681969	46579.721	53	7	10227.853	10.0097845	271	9.9902155	9777.222	53
10.6675817	46513.788	52	8	10228.492	10.0098117	271	9.9901883	9776.611	52
10.6669673	46448.034	51	9	10229.132	10.0098388	272	9.9901612	9775.999	51
10.6663537	46382.257	50	10	10229.773	10.0098661	272	9.9901339	9775.386	50
10.6657409	46317.056	49	11	10230.415	10.0098933	272	9.9901067	9774.773	49
10.6651289	46251.832	48	12	10231.058	10.0099206	273	9.9900794	9774.159	48
10.6645177	46186.783	47	13	10231.702	10.0099479	273	9.9900521	9773.544	47
10.6639073	46121.908	46	14	10232.347	10.0099753	274	9.9900247	9772.928	46
10.6632976	46057.207	45	15	10232.993	10.0100027	274	9.9899973	9772.311	45
10.6626887	45992.680	44	16	10233.640	10.0100302	275	9.9899698	9771.693	44
10.6620806	45928.325	43	17	10234.288	10.0100577	275	9.9899423	9771.075	43
10.6614733	45864.141	42	18	10234.937	10.0100852	275	9.9899148	9770.456	42
10.6608667	45800.129	41	19	10235.587	10.0101127	276	9.9898873	9769.836	41
10.6602609	45736.287	40	20	10236.238	10.0101403	276	9.9898597	9769.215	40
10.6596559	45672.614	39	21	10236.890	10.0101680	277	9.9898320	9768.593	39
10.6590516	45609.111	38	22	10237.543	10.0101957	277	9.9898043	9767.970	38
10.6584481	45545.776	37	23	10238.196	10.0102234	277	9.9897766	9767.347	37
10.6578454	45482.608	36	24	10238.850	10.0102511	278	9.9897489	9766.723	36
10.6572434	45419.608	35	25	10239.505	10.0102789	278	9.9897211	9766.098	35
10.6566422	45356.773	34	26	10240.161	10.0103068	279	9.9896932	9765.472	34
10.6560417	45294.105	33	27	10240.818	10.0103346	280	9.9896654	9764.845	33
10.6554420	45231.601	32	28	10241.476	10.0103626	280	9.9896374	9764.217	32
10.6548430	45169.261	31	29	10242.135	10.0103905	280	9.9896095	9763.589	31
10.6542448	45107.085	30	30	10242.795	10.0104185	281	9.9895815	9762.960	30
10.6536473	45045.072	29	31	10243.456	10.0104465	281	9.9895535	9762.330	29
10.6530506	44983.221	28	32	10244.118	10.0104746	281	9.9895254	9761.699	28
10.6524546	44921.532	27	33	10244.781	10.0105027	282	9.9894973	9761.067	27
10.6518593	44860.004	26	34	10245.445	10.0105308	282	9.9894692	9760.435	26
10.6512648	44798.636	25	35	10246.110	10.0105590	282	9.9894410	9759.802	25
10.6506710	44737.428	24	36	10246.776	10.0105872	283	9.9894128	9759.168	24
10.6500780	44676.379	23	37	10247.443	10.0106155	283	9.9893845	9758.533	23
10.6494857	44615.489	22	38	10248.111	10.0106438	283	9.9893562	9757.897	22
10.6488941	44554.756	21	39	10248.780	10.0106721	284	9.9893279	9757.260	21
10.6483032	44494.181	20	40	10249.449	10.0107005	284	9.9892995	9756.623	20
10.6477131	44433.762	19	41	10250.119	10.0107289	284	9.9892711	9755.985	19
10.6471237	44373.499	18	42	10250.790	10.0107573	285	9.9892427	9755.346	18
10.6465350	44313.392	17	43	10251.462	10.0107858	285	9.9892142	9754.706	17
10.6459470	44253.439	16	44	10252.135	10.0108144	285	9.9891856	9754.065	16
10.6453598	44193.641	15	45	10252.807	10.0108429	285	9.9891571	9753.423	15
10.6447733	44133.996	14	46	10253.484	10.0108716	286	9.9891285	9752.781	14
10.6441874	44074.504	13	47	10254.160	10.0109002	287	9.9890998	9752.138	13
10.6436023	44015.164	12	48	10254.837	10.0109289	287	9.9890711	9751.494	12
10.6430179	43955.976	11	49	10255.515	10.0109576	287	9.9890424	9750.849	11
10.6424342	43896.940	10	50	10256.194	10.0109863	288	9.9890137	9750.203	10
10.6418513	43838.054	9	51	10256.874	10.0110151	288	9.9889849	9749.556	9
10.6412690	43779.317	8	52	10257.555	10.0110440	289	9.9889560	9748.909	8
10.6406874	43720.731	7	53	10258.237	10.0110729	289	9.9889271	9748.261	7
10.6401065	43662.293	6	54	10258.920	10.0111018	289	9.9888982	9747.612	6
10.6395264	43604.003	5	55	10259.604	10.0111307	289	9.9888693	9746.962	5
10.6389469	43545.861	4	56	10260.285	10.0111597	290	9.9888403	9746.311	4
10.6383681	43487.866	3	57	10260.975	10.0111887	291	9.9888113	9745.660	3
10.6377900	43430.018	2	58	10261.662	10.0112178	291	9.9887822	9745.008	2
10.6372126	43372.316	1	59	10262.350	10.0112469	291	9.9887531	9744.355	1
10.6366359	43314.759	0	60	10263.039	10.0112761	292	9.9887239	9743.701	0
L. Tang.	N. Tan.	77				11.	L. Sin.	N. Sin.	77

13	N. Sin.	L. Sin.	Diff.				13	N. Tan.	L. Tan.	Diff.
1	2245.511	9.3520880	10.6479120	44454.115	60		0	2308.682	9.3633641	
2	2252.345	9.3526349	10.6473651	44398.176	59		1	2311.746	9.3639401	5760
3	2255.179	9.3531810	10.6468190	44342.382	58		2	2314.811	9.3645155	5754
4	2258.013	9.3537264	10.6462736	44286.731	57		3	2317.876	9.3650901	5746
5	2260.846	9.3542711	10.6457290	44231.224	56		4	2320.941	9.3656641	5740
6	2263.680	9.3548150	10.6451810	44175.859	55		5	2324.007	9.3662377	5733
7	2266.513	9.3553582	10.6446418	44120.637	54		6	2327.073	9.3668108	5726
8	2269.346	9.3559007	10.6440993	44065.556	53		7	2330.140	9.3673819	5719
9	2272.179	9.3564426	10.6435574	44010.616	52		8	2333.207	9.3679535	5713
10	2275.012	9.3569836	10.6430164	43955.817	51		9	2336.274	9.3685238	5706
11	2277.844	9.3575240	10.6424760	43901.158	50		10	2339.342	9.3690937	5699
12	2280.677	9.3580637	10.6419363	43846.638	49		11	2342.410	9.3696635	5692
13	2283.509	9.3586027	10.6413973	43792.257	48		12	2345.479	9.3702331	5686
14	2286.341	9.3591409	10.6408591	43738.015	47		13	2348.548	9.3707954	5679
15	2289.172	9.3596785	10.6403215	43683.910	46		14	2351.617	9.3713565	5673
16	2292.004	9.3602154	10.6397846	43629.943	45		15	2354.687	9.3719133	5666
17	2294.835	9.3607515	10.6392485	43576.113	44		16	2357.758	9.3724692	5659
18	2297.666	9.3612870	10.6387130	43522.419	43		17	2360.829	9.3730265	5653
19	2300.497	9.3618217	10.6381783	43468.861	42		18	2363.900	9.3735829	5646
20	2303.323	9.3623558	10.6376442	43415.438	41		19	2366.972	9.3741393	5639
21	2306.159	9.3628892	10.6371108	43362.150	40		20	2370.044	9.3747053	5633
22	2308.989	9.3634219	10.6365781	43308.996	39		21	2373.116	9.3752699	5627
23	2311.819	9.3639539	10.6360461	43255.977	38		22	2376.189	9.3758310	5620
24	2314.649	9.3644852	10.6355148	43203.090	37		23	2379.262	9.3764007	5613
25	2317.479	9.3650158	10.6349842	43150.336	36		24	2382.336	9.3769693	5607
26	2320.309	9.3655458	10.6344542	43097.715	35		25	2385.410	9.3775363	5601
27	2323.138	9.3660750	10.6339250	43045.225	34		26	2388.485	9.3781055	5594
28	2325.967	9.3666036	10.6333964	42992.867	33		27	2391.560	9.3786738	5588
29	2328.796	9.3671315	10.6328685	42940.640	32		28	2394.635	9.3792394	5581
30	2331.625	9.3676585	10.6323413	42888.543	31		29	2397.711	9.3797969	5575
31	2334.454	9.3681853	10.6318147	42836.576	30		30	2400.787	9.3803563	5568
32	2337.282	9.3687111	10.6312889	42784.738	29		31	2403.864	9.3809100	5562
33	2340.110	9.3692363	10.6307637	42733.029	28		32	2406.941	9.3814655	5555
34	2342.938	9.3697608	10.6302392	42681.449	27		33	2410.019	9.3820208	5549
35	2345.766	9.3702847	10.6297153	42629.996	26		34	2413.097	9.3825748	5543
36	2348.594	9.3708079	10.6291921	42578.671	25		35	2416.176	9.3831285	5537
37	2351.421	9.3713304	10.6286696	42527.474	24		36	2419.255	9.3836818	5531
38	2354.248	9.3718523	10.6281477	42476.402	23		37	2422.334	9.3842340	5524
39	2357.075	9.3723735	10.6276265	42425.457	22		38	2425.414	9.3847855	5518
40	2359.902	9.3728940	10.6271060	42374.637	21		39	2428.494	9.3853370	5512
41	2362.729	9.3734133	10.6265861	42323.943	20		40	2431.575	9.3858876	5506
42	2365.555	9.3739331	10.6260669	42273.373	19		41	2434.656	9.3864376	5500
43	2368.381	9.3744517	10.6255483	42222.928	18		42	2437.737	9.3869869	5493
44	2371.207	9.3749696	10.6250304	42172.606	17		43	2440.819	9.3875355	5487
45	2374.033	9.3754868	10.6245132	42122.408	16		44	2443.901	9.3880837	5481
46	2376.859	9.3760034	10.6239966	42072.333	15		45	2446.984	9.3886315	5475
47	2379.684	9.3765194	10.6234806	42022.380	14		46	2450.057	9.3891781	5469
48	2382.510	9.3770347	10.6229653	41972.549	13		47	2453.131	9.3897244	5463
49	2385.335	9.3775493	10.6224507	41922.840	12		48	2456.205	9.3902700	5456
50	2388.159	9.3780633	10.6219367	41873.252	11		49	2459.280	9.3908151	5451
51	2390.984	9.3785767	10.6214233	41823.785	10		50	2462.345	9.3913599	5444
52	2393.808	9.3790894	10.6209106	41774.438	9		51	2465.491	9.3919034	5439
53	2396.633	9.3796015	10.6203985	41725.210	8		52	2468.577	9.3924466	5432
54	2399.457	9.3801129	10.6198871	41676.102	7		53	2471.663	9.3929892	5427
55	2402.280	9.3806237	10.6193763	41627.114	6		54	2474.750	9.3935311	5420
56	2405.104	9.3811339	10.6188661	41578.243	5		55	2477.837	9.3940725	5414
57	2407.927	9.3816434	10.6183566	41529.491	4		56	2480.925	9.3946133	5409
58	2410.751	9.3821523	10.6178477	41480.856	3		57	2484.013	9.3951533	5402
59	2413.574	9.3826605	10.6173395	41432.339	2		58	2487.102	9.3956935	5397
60	2416.396	9.3831682	10.6168318	41383.939	1		59	2490.191	9.3962326	5391
61	2419.219	9.3836752	10.6163248	41335.655	0		60	2493.280	9.3967711	5385
			Diff.	L. Sec	N. Sec.	70				Diff.

		13	N. Sec.	L. Sec.	D		
10.6366359	43314.759	60	010263.039	10.0112761	292	9.9887239	9743.701
10.6360599	43257.347	59	110263.729	10.0113053	292	9.9886947	9743.046
10.6354845	43200.079	58	210264.420	10.0113345	292	9.9886655	9742.390
10.6349099	43142.955	57	310265.112	10.0113637	292	9.9886363	9741.734
10.6343359	43085.974	56	410265.805	10.0113930	293	9.9886070	9741.077
10.6337626	43029.136	55	510266.499	10.0114224	294	9.9885776	9740.419
10.6331900	42972.440	54	610267.194	10.0114518	294	9.9885482	9739.760
10.6326181	42915.885	53	710267.890	10.0114812	294	9.9885188	9739.100
10.6320468	42859.472	52	810268.587	10.0115106	294	9.9884894	9738.439
10.6314762	42803.199	51	910269.284	10.0115401	295	9.9884599	9737.778
10.6309063	42747.066	50	1010269.982	10.0115697	296	9.9884303	9737.116
10.6303371	42691.072	49	1110270.681	10.0115992	295	9.9884008	9736.453
10.6297685	42635.218	48	1210271.381	10.0116288	296	9.9883712	9735.789
10.6292006	42579.501	47	1310272.082	10.0116585	297	9.9883415	9735.124
10.6286333	42523.923	46	1410272.784	10.0116882	297	9.9883118	9734.458
10.6280667	42468.482	45	1510273.487	10.0117179	297	9.9882821	9733.792
10.6275008	42413.177	44	1610274.191	10.0117477	298	9.9882525	9733.125
10.6269355	42358.009	43	1710274.896	10.0117775	298	9.9882225	9732.457
10.6263709	42302.977	42	1810275.602	10.0118073	299	9.9881927	9731.788
10.6258070	42248.080	41	1910276.309	10.0118372	299	9.9881628	9731.118
10.6252437	42193.318	40	2010277.017	10.0118671	299	9.9881329	9730.448
10.6246810	42138.690	39	2110277.726	10.0118971	300	9.9881029	9729.777
10.6241190	42084.196	38	2210278.436	10.0119271	300	9.9880729	9729.105
10.6235577	42029.835	37	2310279.147	10.0119571	300	9.9880429	9728.432
10.6229970	41975.606	36	2410279.859	10.0119872	301	9.9880128	9727.758
10.6224369	41921.510	35	2510280.572	10.0120173	302	9.9879827	9727.084
10.6218775	41867.546	34	2610281.286	10.0120475	302	9.9879525	9726.409
10.6213187	41813.713	33	2710282.001	10.0120777	302	9.9879223	9725.733
10.6207606	41760.011	32	2810282.717	10.0121079	303	9.9878921	9725.056
10.6202031	41706.440	31	2910283.434	10.0121382	303	9.9878618	9724.378
10.6196463	41652.998	30	3010284.152	10.0121685	303	9.9878315	9723.699
10.6190900	41599.685	29	3110284.871	10.0121988	303	9.9878012	9723.019
10.6185345	41546.501	28	3210285.591	10.0122292	304	9.9877708	9722.339
10.6179795	41493.446	27	3310286.312	10.0122596	305	9.9877404	9721.655
10.6174252	41440.519	26	3410287.034	10.0122901	305	9.9877099	9720.976
10.6168715	41387.719	25	3510287.757	10.0123205	305	9.9876794	9720.293
10.6163184	41335.046	24	3610288.481	10.0123512	305	9.9876488	9719.609
10.6157660	41282.499	23	3710289.206	10.0123817	305	9.9876183	9718.925
10.6152142	41230.079	22	3810289.932	10.0124124	306	9.9875876	9718.240
10.6146630	41177.784	21	3910290.658	10.0124430	307	9.9875570	9717.554
10.6141124	41125.614	20	4010291.385	10.0124737	308	9.9875263	9716.867
10.6135624	41073.569	19	4110292.113	10.0125045	307	9.9874955	9716.179
10.6130131	41021.649	18	4210292.842	10.0125352	307	9.9874648	9715.491
10.6124644	40969.852	17	4310293.572	10.0125661	309	9.9874339	9714.802
10.6119163	40918.178	16	4410294.303	10.0125969	309	9.9874031	9714.112
10.6113688	40866.627	15	4510295.035	10.0126278	309	9.9873722	9713.421
10.6108219	40815.199	14	4610295.768	10.0126587	310	9.9873413	9712.729
10.6102756	40763.892	13	4710296.502	10.0126897	310	9.9873103	9712.036
10.6097300	40712.707	12	4810297.237	10.0127207	310	9.9872793	9711.343
10.6091849	40661.643	11	4910297.973	10.0127518	311	9.9872482	9710.649
10.6086405	40610.700	10	5010298.710	10.0127829	311	9.9872171	9709.954
10.6080966	40559.877	9	5110299.448	10.0128140	311	9.9871860	9709.258
10.6075534	40509.174	8	5210300.187	10.0128451	311	9.9871549	9708.561
10.6070107	40458.590	7	5310300.927	10.0128764	313	9.9871236	9707.863
10.6064687	40408.125	6	5410301.668	10.0129076	312	9.9870924	9707.165
10.6059273	40357.779	5	5510302.410	10.0129389	313	9.9870611	9706.466
10.6053864	40307.550	4	5610303.153	10.0129702	313	9.9870298	9705.766
10.6048462	40257.440	3	5710303.897	10.0130016	314	9.9869984	9705.065
10.6043065	40207.446	2	5810304.642	10.0130330	314	9.9869670	9704.363
10.6037674	40157.570	1	5910305.388	10.0130644	314	9.9869356	9703.660
10.6032282	40107.805	0	6010306.135	10.0130959	315	9.9869041	9702.957
L. Tan.	N. Tan.	76			D	L. Sin.	N Sin. 76

14 N. Sin.	L. Sin.	Diff.			14 N. Tan.	L. Tan.	Diff.
0 2419.215	9.3836752		10 6163248	41335.655	60	2493.280	9.3967711
1 2422.041	9.3841815	5063	10.6158185	41287.487	59	1 2496.370	9.3973089
2 2424.863	9.3846873	5051	10.6153127	41239.435	58	2 2499.460	9.3978463
3 2427.685	9.3851924	5045	10.6148076	41191.498	57	3 2502.551	9.3983836
4 2430.507	9.3856969	5039	10.6143031	41143.675	56	4 2505.642	9.3989199
5 2433.329	9.3862003	5032	10.6137992	41095.967	55	5 2508.734	9.3994547
6 2436.150	9.3867040	5027	10.6132960	41048.374	54	6 2511.826	9.3999896
7 2438.971	9.3872067	5020	10.6127933	41000.893	53	7 2514.919	9.4005240
8 2441.792	9.3877087	5014	10.6122913	40953.526	52	8 2518.012	9.4010578
9 2444.613	9.3882101	5008	10.6117899	40906.272	51	9 2521.106	9.4015916
10 2447.433	9.3887109	5002	10.6112891	40859.130	50	10 2524.200	9.4021257
11 2450.254	9.3892111	4995	10.6107889	40812.100	49	11 2527.294	9.4026598
12 2453.074	9.3897106	4990	10.6102894	40765.181	48	12 2530.389	9.4031933
13 2455.894	9.3902096	4983	10.6097904	40718.374	47	13 2533.484	9.4037271
14 2458.713	9.3907079	4978	10.6092921	40671.677	46	14 2536.580	9.4042606
15 2461.533	9.3912057	4971	10.6087943	40625.091	45	15 2539.676	9.4047943
16 2464.352	9.3917028	4965	10.6082972	40578.615	44	16 2542.773	9.4053276
17 2467.171	9.3921993	4959	10.6078007	40532.249	43	17 2545.870	9.4058606
18 2469.990	9.3926952	4953	10.6073048	40485.992	42	18 2548.968	9.4063944
19 2472.809	9.3931905	4947	10.6068095	40439.844	41	19 2552.066	9.4069281
20 2475.627	9.3936852	4942	10.6063148	40393.804	40	20 2555.165	9.4074619
21 2478.445	9.3941794	4935	10.6058206	40347.872	39	21 2558.264	9.4079953
22 2481.263	9.3946729	4929	10.6053271	40302.048	38	22 2561.363	9.4085283
23 2484.081	9.3951658	4923	10.6048342	40256.332	37	23 2564.463	9.4090606
24 2486.899	9.3956581	4918	10.6043419	40210.722	36	24 2567.563	9.4095921
25 2489.716	9.3961499	4911	10.6038501	40165.219	35	25 2570.664	9.4101234
26 2492.533	9.3966410	4905	10.6033590	40119.823	34	26 2573.766	9.4106546
27 2495.350	9.3971315	4900	10.6028685	40074.532	33	27 2576.868	9.4111851
28 2498.167	9.3976215	4894	10.6023785	40029.347	32	28 2579.970	9.4117156
29 2500.984	9.3981109	4887	10.6018891	39984.267	31	29 2583.073	9.4122456
30 2503.800	9.3985996	4882	10.6014004	39939.292	30	30 2586.176	9.4127751
31 2506.616	9.3990878	4876	10.6009122	39894.421	29	31 2589.280	9.4133049
32 2509.432	9.3995754	4871	10.6004246	39849.654	28	32 2592.384	9.4138343
33 2512.248	9.4000625	4864	10.5999375	39804.991	27	33 2595.488	9.4143633
34 2515.063	9.4005489	4859	10.5994511	39760.431	26	34 2598.593	9.4148919
35 2517.879	9.4010348	4853	10.5989652	39715.975	25	35 2601.699	9.4154201
36 2520.694	9.4015201	4847	10.5984799	39671.621	24	36 2604.805	9.4159478
37 2523.508	9.4020048	4841	10.5979952	39627.369	23	37 2607.911	9.4164751
38 2526.323	9.4024889	4835	10.5975111	39583.219	22	38 2611.018	9.4169999
39 2529.137	9.4029724	4830	10.5970276	39539.171	21	39 2614.126	9.4175243
40 2531.952	9.4034554	4824	10.5965446	39495.224	20	40 2617.234	9.4180481
41 2534.765	9.4039378	4818	10.5960622	39451.379	19	41 2620.342	9.4185715
42 2537.579	9.4044196	4813	10.5955804	39407.633	18	42 2623.451	9.4190944
43 2540.393	9.4049009	4807	10.5950991	39363.988	17	43 2626.560	9.4196168
44 2543.206	9.4053816	4801	10.5946184	39320.443	16	44 2629.670	9.4201387
45 2546.019	9.4058617	4796	10.5941383	39276.997	15	45 2632.780	9.4206601
46 2548.832	9.4063413	4790	10.5936587	39233.651	14	46 2635.891	9.4211810
47 2551.645	9.4068203	4784	10.5931797	39190.403	13	47 2639.002	9.4217015
48 2554.458	9.4072987	4779	10.5927013	39147.254	12	48 2642.114	9.4222215
49 2557.270	9.4077766	4773	10.5922234	39104.203	11	49 2645.226	9.4227410
50 2560.082	9.4082539	4767	10.5917461	39061.250	10	50 2648.339	9.4232601
51 2562.894	9.4087306	4761	10.5912694	39018.395	9	51 2651.452	9.4237788
52 2565.705	9.4092068	4756	10.5907932	38975.637	8	52 2654.566	9.4242971
53 2568.517	9.4096824	4751	10.5903176	38932.976	7	53 2657.680	9.4248150
54 2571.328	9.4101575	4745	10.5898425	38890.411	6	54 2660.794	9.4253325
55 2574.139	9.4106320	4739	10.5893680	38847.943	5	55 2663.909	9.4258496
56 2576.950	9.4111059	4734	10.5888941	38805.570	4	56 2667.025	9.4263661
57 2579.760	9.4115793	4729	10.5884207	38763.293	3	57 2670.141	9.4268821
58 2582.570	9.4120522	4723	10.5879478	38721.112	2	58 2673.257	9.4273976
59 2585.381	9.4125245	4717	10.5874755	38679.025	1	59 2676.374	9.4279126
60 2588.190	9.4129962		10.5870038	38637.033	0	60 2679.492	9.4284271
		Diff.	L. Sec.	N. Sec.			Diff.

		N. Sec.	L. Sec.	D		
10.6032239	40107.809	60	10306.135	10.0130959	9.9862041	9702.957
10.6025911	40058.165	59	10306.883	10.0131274	9.9863720	9702.253
10.6021537	40003.636	58	10307.632	10.0131590	9.9865400	9701.548
10.6016170	39959.223	57	10308.382	10.0131906	9.9867079	9700.842
10.6010809	39909.924	56	10309.133	10.0132222	9.9868758	9700.135
10.6005453	39860.739	55	10309.885	10.0132539	9.9870437	9699.428
10.6000104	39811.669	54	10310.633	10.0132856	9.9872116	9698.720
10.5994760	39762.712	53	10311.392	10.0133173	9.9873795	9698.011
10.5989422	39713.868	52	10312.147	10.0133491	9.9875474	9697.301
10.5984090	39665.137	51	10312.903	10.0133809	9.9877153	9696.590
10.5978763	39616.518	50	10313.660	10.0134126	9.9878832	9695.879
10.5973442	39568.011	49	10314.418	10.0134444	9.9880511	9695.167
10.5968127	39519.615	48	10315.177	10.0134762	9.9882190	9694.454
10.5962818	39471.331	47	10315.936	10.0135080	9.9883869	9693.740
10.5957514	39423.157	46	10316.697	10.0135400	9.9885548	9693.025
10.5952216	39375.094	45	10317.459	10.0135727	9.9887227	9692.309
10.5946924	39327.141	44	10318.222	10.0136048	9.9888906	9691.592
10.5941637	39279.297	43	10318.985	10.0136370	9.9890585	9690.875
10.5936356	39231.561	42	10319.750	10.0136692	9.9892264	9690.157
10.5931081	39183.937	41	10320.516	10.0137014	9.9893943	9689.438
10.5925811	39136.420	40	10321.282	10.0137337	9.9895622	9688.719
10.5920547	39089.011	39	10322.050	10.0137660	9.9897301	9688.000
10.5915288	39041.710	38	10322.818	10.0137983	9.9898980	9687.281
10.5910035	38994.516	37	10323.588	10.0138307	9.9900659	9686.562
10.5904788	38947.429	36	10324.359	10.0138631	9.9902338	9685.843
10.5899546	38900.448	35	10325.130	10.0138955	9.9904017	9685.124
10.5894310	38853.574	34	10325.903	10.0139280	9.9905696	9684.405
10.5889079	38806.805	33	10326.675	10.0139605	9.9907375	9683.686
10.5883854	38760.142	32	10327.451	10.0139931	9.9909054	9682.967
10.5878634	38713.584	31	10328.227	10.0140258	9.9910733	9682.248
10.5873419	38667.131	30	10329.003	10.0140584	9.9912412	9681.529
10.5868211	38620.782	29	10329.781	10.0140911	9.9914091	9680.810
10.5863007	38574.537	28	10330.559	10.0141238	9.9915770	9680.091
10.5857809	38528.396	27	10331.339	10.0141566	9.9917449	9679.372
10.5852617	38482.258	26	10332.119	10.0141894	9.9919128	9678.653
10.5847430	38436.124	25	10332.901	10.0142222	9.9920807	9677.934
10.5842248	38390.001	24	10333.683	10.0142551	9.9922486	9677.215
10.5837072	38344.861	23	10334.467	10.0142881	9.9924165	9676.496
10.5831901	38299.723	22	10335.251	10.0143210	9.9925844	9675.777
10.5826735	38254.585	21	10336.037	10.0143540	9.9927523	9675.058
10.5821575	38209.447	20	10336.823	10.0143871	9.9929202	9674.339
10.5816420	38164.310	19	10337.611	10.0144202	9.9930881	9673.620
10.5811271	38119.173	18	10338.399	10.0144533	9.9932560	9672.901
10.5806126	38074.036	17	10339.188	10.0144865	9.9934239	9672.182
10.5800987	38028.900	16	10339.979	10.0145197	9.9935918	9671.463
10.5795844	37983.763	15	10340.770	10.0145529	9.9937597	9670.744
10.5790705	37938.626	14	10341.563	10.0145862	9.9939276	9670.025
10.5785560	37893.489	13	10342.356	10.0146195	9.9940955	9669.306
10.5780435	37848.352	12	10343.151	10.0146528	9.9942634	9668.587
10.5775322	37803.215	11	10343.946	10.0146862	9.9944313	9667.868
10.5770205	37758.078	10	10344.743	10.0147197	9.9945992	9667.149
10.5765102	37712.941	9	10345.540	10.0147532	9.9947671	9666.430
10.5760005	37667.804	8	10346.338	10.0147867	9.9949350	9665.711
10.5754974	37622.667	7	10347.138	10.0148202	9.9951029	9664.992
10.5749887	37577.530	6	10347.938	10.0148538	9.9952708	9664.273
10.5744806	37532.393	5	10348.740	10.0148875	9.9954387	9663.554
10.5739729	37487.256	4	10349.542	10.0149211	9.9956066	9662.835
10.5734658	37442.119	3	10350.346	10.0149548	9.9957745	9662.116
10.5729592	37396.982	2	10351.150	10.0149886	9.9959424	9661.397
10.5724531	37351.845	1	10351.955	10.0150224	9.9961103	9660.678
10.5719475	37306.708	0	10352.762	10.0150562	9.9962782	9659.959
L. Tan.	N. Tan.	75			D. L. Sin.	N. Sin.

15 N. Sin	L. Sin	Diff	15 N. Tan	L. Tan	Diff
2588.190	9.4129962		0.2679.492	9.4280525	
12591.000	9.4134073	4712	12682.610	9.4285575	5050
22593.810	9.4137331	4707	22685.728	9.4290621	5046
32596.619	9.4140032	4701	32688.847	9.4295661	5040
42599.428	9.4142778	4696	42691.967	9.4300697	5036
52602.237	9.4145468	4690	52695.087	9.4305727	5030
62605.045	9.4148152	4684	62698.207	9.4310753	5026
72607.853	9.4150832	4680	72701.328	9.4315773	5020
82610.661	9.4153506	4674	82704.449	9.4320789	5016
92613.469	9.4156174	4668	92707.571	9.4325799	5010
102616.277	9.4158837	4663	102710.693	9.4330804	5005
112619.085	9.4161495	4658	112713.816	9.4335805	5001
122621.892	9.4164148	4653	122716.940	9.4340800	4995
132624.699	9.4166795	4647	132720.064	9.4345791	4991
142627.506	9.4169436	4641	142723.188	9.4350776	4985
152630.312	9.4172073	4637	152726.313	9.4355757	4981
162633.118	9.4174704	4631	162729.438	9.4360733	4976
172635.924	9.4177330	4626	172732.564	9.4365704	4971
182638.730	9.4179950	4620	182735.690	9.4370670	4966
192641.536	9.4182566	4616	192738.817	9.4375631	4961
202644.342	9.4185176	4610	202741.944	9.4380587	4956
212647.147	9.4187780	4604	212745.072	9.4385538	4951
222649.952	9.4190380	4600	222748.201	9.4390485	4947
232652.757	9.4192974	4594	232751.330	9.4395426	4941
242655.561	9.4195563	4589	242754.459	9.4400363	4937
252658.365	9.4198147	4584	252757.589	9.4405295	4932
262661.169	9.4200726	4579	262760.719	9.4410222	4927
272663.973	9.4203300	4573	272763.850	9.4415145	4923
282666.777	9.4205869	4568	282766.981	9.4420064	4917
292669.581	9.4208433	4563	292770.113	9.4424975	4913
302672.384	9.4210993	4558	302773.245	9.4429883	4909
312675.187	9.4213548	4553	312776.378	9.4434786	4903
322677.990	9.4216098	4548	322779.512	9.4439685	4899
332680.792	9.4218643	4542	332782.646	9.4444579	4894
342683.594	9.4221183	4538	342785.780	9.4449468	4889
352686.396	9.4223718	4534	352788.915	9.4454352	4884
362689.198	9.4226248	4529	362792.050	9.4459232	4880
372692.000	9.4228773	4522	372795.186	9.4464107	4875
382694.801	9.4231293	4517	382798.322	9.4468978	4871
392697.602	9.4233808	4511	392801.459	9.4473843	4865
402700.403	9.4236318	4507	402804.597	9.4478704	4861
412703.204	9.4238823	4502	412807.735	9.4483561	4857
422706.005	9.4241323	4497	422810.873	9.4488413	4852
432708.805	9.4243818	4492	432814.012	9.4493260	4847
442711.605	9.4246308	4487	442817.152	9.4498102	4842
452714.404	9.4248793	4482	452820.292	9.4502940	4838
462717.204	9.4251273	4477	462823.432	9.4507774	4834
472720.003	9.4253748	4471	472826.573	9.4512602	4828
482722.802	9.4256218	4467	482829.715	9.4517427	4825
492725.601	9.4258683	4462	492832.857	9.4522246	4819
502728.400	9.4261143	4457	502835.999	9.4527061	4815
512731.198	9.4263598	4452	512839.142	9.4531872	4811
522733.996	9.4266048	4448	522842.286	9.4536678	4806
532736.794	9.4268493	4442	532845.430	9.4541479	4801
542739.592	9.4270933	4437	542848.573	9.4546276	4797
552742.390	9.4273368	4433	552851.720	9.4551069	4793
562745.187	9.4275798	4427	562854.866	9.4555857	4788
572747.984	9.4278223	4423	572858.012	9.4560641	4784
582750.781	9.4280643	4418	582861.159	9.4565420	4779
592753.578	9.4283058	4413	592864.306	9.4570194	4774
602756.374	9.4285468	4408	602867.454	9.4574964	4770
	Diff	L. Sec.		N. Sec.	174

		15. N. Sec.	L. Sec.	D.		
10.5719475	37320.508	60	0 10352.762	10.0150562	9.9849438	3659.258 60
10.5714435	37277.131	59	1 10353.569	10.0150901	9.9849099	3658.505 59
10.5709379	37233.847	58	2 10354.378	10.0151240	9.9848760	3657.751 58
10.5704339	37190.658	57	3 10355.187	10.0151580	9.9848420	3656.996 57
10.5699393	37147.561	56	4 10355.998	10.0151919	9.9848081	3656.240 56
10.5694273	37104.558	55	5 10356.809	10.0152260	9.9847740	3655.483 55
10.5689247	37061.648	54	6 10357.621	10.0152600	9.9847400	3654.726 54
10.5684227	37018.830	53	7 10358.435	10.0152941	9.9847059	3653.968 53
10.5679211	36976.103	52	8 10359.249	10.0153283	9.9846717	3653.209 52
10.5674201	36933.469	51	9 10360.065	10.0153625	9.9846375	3652.449 51
10.5669196	36890.927	50	10 10360.881	10.0153967	9.9846033	3651.688 50
10.5664195	36848.475	49	11 10361.699	10.0154310	9.9845690	3650.927 49
10.5659200	36806.115	48	12 10362.517	10.0154653	9.9845347	3650.165 48
10.5654209	36763.845	47	13 10363.337	10.0154996	9.9845004	3649.402 47
10.5649224	36721.665	46	14 10364.157	10.0155340	9.9844660	3648.638 46
10.5644243	36679.575	45	15 10364.979	10.0155684	9.9844316	3647.873 45
10.5639267	36637.575	44	16 10365.801	10.0156029	9.9843971	3647.107 44
10.5634296	36595.665	43	17 10366.625	10.0156374	9.9843626	3646.341 43
10.5629330	36553.844	42	18 10367.449	10.0156719	9.9843281	3645.574 42
10.5624369	36512.111	41	19 10368.275	10.0157065	9.9842935	3644.806 41
10.5619413	36470.467	40	20 10369.101	10.0157411	9.9842589	3644.037 40
10.5614461	36428.911	39	21 10369.929	10.0157758	9.9842242	3643.267 39
10.5609515	36387.444	38	22 10370.757	10.0158105	9.9841895	3642.497 38
10.5604574	36346.064	37	23 10371.587	10.0158452	9.9841548	3641.726 37
10.5599637	36304.771	36	24 10372.417	10.0158800	9.9841202	3640.954 36
10.5594705	36263.566	35	25 10373.249	10.0159148	9.9840855	3640.181 35
10.5589778	36222.447	34	26 10374.082	10.0159497	9.9840503	3639.407 34
10.5584855	36181.415	33	27 10374.915	10.0159846	9.9840154	3638.633 33
10.5579938	36140.469	32	28 10375.750	10.0160195	9.9839805	3637.858 32
10.5575025	36099.609	31	29 10376.585	10.0160545	9.9839455	3637.082 31
10.5570117	36058.835	30	30 10377.422	10.0160895	9.9839105	3636.305 30
10.5565214	36018.146	29	31 10378.260	10.0161245	9.9838755	3635.527 29
10.5560315	35977.543	28	32 10379.098	10.0161596	9.9838404	3634.748 28
10.5555421	35937.024	27	33 10379.938	10.0161948	9.9838052	3633.969 27
10.5550532	35896.590	26	34 10380.779	10.0162299	9.9837701	3633.189 26
10.5545648	35856.241	25	35 10381.621	10.0162652	9.9837348	3632.408 25
10.5540768	35815.975	24	36 10382.463	10.0163004	9.9836996	3631.626 24
10.5535893	35775.794	23	37 10383.307	10.0163357	9.9836643	3630.843 23
10.5531022	35735.696	22	38 10384.152	10.0163710	9.9836290	3630.059 22
10.5526157	35695.681	21	39 10384.998	10.0164064	9.9835936	3629.275 21
10.5521296	35655.749	20	40 10385.844	10.0164418	9.9835582	3628.490 20
10.5516439	35615.900	19	41 10386.692	10.0164773	9.9835227	3627.704 19
10.5511587	35576.133	18	42 10387.541	10.0165128	9.9834872	3626.917 18
10.5506740	35536.449	17	43 10388.391	10.0165483	9.9834517	3626.130 17
10.5501898	35496.846	16	44 10389.242	10.0165839	9.9834161	3625.342 16
10.5497060	35457.325	15	45 10390.094	10.0166195	9.9833805	3624.553 15
10.5492226	35417.886	14	46 10390.947	10.0166551	9.9833449	3623.763 14
10.5487398	35378.528	13	47 10391.800	10.0166908	9.9833092	3622.972 13
10.5482573	35339.251	12	48 10392.655	10.0167265	9.9832735	3622.180 12
10.5477754	35300.054	11	49 10393.511	10.0167623	9.9832377	3621.387 11
10.5472939	35260.938	10	50 10394.368	10.0167981	9.9832019	3620.594 10
10.5468128	35221.902	9	51 10395.226	10.0168339	9.9831661	3619.800 9
10.5463322	35182.946	8	52 10396.085	10.0168698	9.9831302	3619.005 8
10.5458521	35144.070	7	53 10396.945	10.0169058	9.9830942	3618.209 7
10.5453724	35105.273	6	54 10397.806	10.0169417	9.9830583	3617.413 6
10.5448931	35066.555	5	55 10398.669	10.0169777	9.9830223	3616.616 5
10.5444143	35027.916	4	56 10399.532	10.0170138	9.9829862	3615.818 4
10.5439359	34989.356	3	57 10400.396	10.0170499	9.9829501	3615.019 3
10.5434580	34950.874	2	58 10401.261	10.0170860	9.9829140	3614.219 2
10.5429806	34912.470	1	59 10402.127	10.0171222	9.9828778	3613.418 1
10.5425036	34874.144	0	60 10402.994	10.0171584	9.9828416	3612.617 0
L. Tan.	N. Tan.	74		D.	L. Sin.	N. Sin. 74

16. N. Sin.	L. Sin.	Diff.	16. N. Tan.	L. Tan.	Diff.
0 2756.374	9.4403391	10.5596619	2857.454	9.4574964	4765
1 2759.170	9.4407781	10.5592210	2870.602	9.4579730	4761
2 2761.905	9.4412182	10.5587816	2873.751	9.4584499	4757
3 2764.761	9.4416576	10.5583424	2876.900	9.4589268	4753
4 2767.556	9.4420955	10.5579035	2880.050	9.4594031	4749
5 2770.352	9.4425344	10.5574651	2883.201	9.4598794	4745
6 2773.147	9.4429728	10.5570272	2886.352	9.4603552	4741
7 2775.941	9.4434103	10.5565897	2889.503	9.4608312	4737
8 2778.736	9.4438477	10.5561528	2892.655	9.4613071	4733
9 2781.530	9.4442852	10.5557163	2895.808	9.4617830	4729
10 2784.324	9.4447227	10.5552803	2898.961	9.4622589	4725
11 2787.118	9.4451553	10.5548447	2902.114	9.4627348	4721
12 2789.911	9.4455904	10.5544096	2905.268	9.4632107	4717
13 2792.704	9.4460250	10.5539750	2908.423	9.4636866	4713
14 2795.497	9.4464598	10.5535409	2911.578	9.4641625	4709
15 2798.290	9.4468947	10.5531073	2914.734	9.4646384	4705
16 2801.083	9.4473295	10.5526741	2917.890	9.4651143	4701
17 2803.875	9.4477580	10.5522414	2921.047	9.4655902	4697
18 2806.667	9.4481902	10.5518091	2924.205	9.4660661	4693
19 2809.459	9.4486222	10.5513773	2927.363	9.4665420	4689
20 2812.251	9.4490540	10.5509460	2930.521	9.4670179	4685
21 2815.042	9.4494849	10.5505151	2933.680	9.4674938	4681
22 2817.833	9.4499153	10.5500847	2936.839	9.4679697	4677
23 2820.624	9.4503452	10.5496548	2939.999	9.4684456	4673
24 2823.415	9.4507747	10.5492253	2943.160	9.4689215	4669
25 2826.205	9.4512037	10.5487963	2946.321	9.4693974	4665
26 2828.995	9.4516322	10.5483673	2949.483	9.4698733	4661
27 2831.785	9.4520603	10.5479397	2952.645	9.4703492	4657
28 2834.575	9.4524879	10.5475121	2955.808	9.4708251	4653
29 2837.364	9.4529151	10.5470849	2958.971	9.4713010	4649
30 2840.153	9.4533418	10.5466582	2962.135	9.4717769	4645
31 2842.942	9.4537681	10.5462319	2965.299	9.4722528	4641
32 2845.731	9.4541939	10.5458061	2968.464	9.4727287	4637
33 2848.520	9.4546192	10.5453808	2971.630	9.4732046	4633
34 2851.308	9.4550441	10.5449559	2974.796	9.4736805	4629
35 2854.096	9.4554686	10.5445314	2977.962	9.4741564	4625
36 2856.884	9.4558926	10.5441074	2981.129	9.4746323	4621
37 2859.671	9.4563161	10.5436832	2984.297	9.4751082	4617
38 2862.458	9.4567392	10.5432595	2987.465	9.4755841	4613
39 2865.245	9.4571618	10.5428362	2990.634	9.4760600	4609
40 2868.032	9.4575840	10.5424130	2993.803	9.4765359	4605
41 2870.819	9.4580058	10.5419892	2996.973	9.4770118	4601
42 2873.605	9.4584271	10.5415729	3000.144	9.4774877	4597
43 2876.391	9.4588480	10.5411520	3003.315	9.4779636	4593
44 2879.177	9.4592684	10.5407316	3006.486	9.4784395	4589
45 2881.963	9.4596884	10.5403116	3009.658	9.4789154	4585
46 2884.748	9.4601079	10.5398921	3012.831	9.4793913	4581
47 2887.533	9.4605270	10.5394730	3016.004	9.4798672	4577
48 2890.318	9.4609456	10.5390544	3019.178	9.4803431	4573
49 2893.103	9.4613638	10.5386362	3022.352	9.4808190	4569
50 2895.887	9.4617816	10.5382184	3025.527	9.4812949	4565
51 2898.671	9.4621989	10.5378011	3028.703	9.4817708	4561
52 2901.455	9.4626158	10.5373842	3031.879	9.4822467	4557
53 2904.239	9.4630323	10.5369677	3035.055	9.4827226	4553
54 2907.022	9.4634483	10.5365517	3038.232	9.4831985	4549
55 2909.805	9.4638639	10.5361361	3041.410	9.4836744	4545
56 2912.588	9.4642790	10.5357210	3044.588	9.4841503	4541
57 2915.371	9.4646938	10.5353062	3047.767	9.4846262	4537
58 2918.153	9.4651081	10.5348919	3050.946	9.4851021	4533
59 2920.935	9.4655219	10.5344781	3054.125	9.4855780	4529
60 2923.717	9.4659353	10.5340647	3057.307	9.4860539	4525
Diff.		L. Sec.	N. Sec.		Diff.

			16	N. Sec.	L. Sec.	D.			
10.5425036	34874.144	60	0	10102.994	10.0171584	362	9.9828416	3612.617	00
10.5420270	34835.896	59	1	10403.863	10.0171946	362	9.9828054	3611.815	59
10.5415509	34797.726	58	2	10404.732	10.0172309	363	9.9827691	3611.012	58
10.5410752	34759.632	57	3	10405.602	10.0172672	364	9.9827328	3610.208	57
10.5405999	34721.616	56	4	10406.473	10.0173036	364	9.9826966	3609.403	56
10.5401251	34683.676	55	5	10407.346	10.0173400	364	9.9826600	3608.598	55
10.5396508	34645.813	54	6	10408.219	10.0173764	364	9.9826236	3607.792	54
10.5391768	34608.026	53	7	10409.094	10.0174129	365	9.9825871	3606.985	53
10.5387033	34570.315	52	8	10409.969	10.0174494	365	9.9825506	3606.177	52
10.5382303	34532.679	51	9	10410.845	10.0174860	366	9.9825142	3605.368	51
10.5377577	34495.120	50	10	10411.723	10.0175226	366	9.9824777	3604.558	50
10.5372855	34457.635	49	11	10412.601	10.0175592	366	9.9824408	3603.748	49
10.5368137	34420.226	48	12	10413.481	10.0175959	367	9.9824041	3602.937	48
10.5363424	34382.891	47	13	10414.362	10.0176326	367	9.9823674	3602.125	47
10.5358715	34345.613	46	14	10415.243	10.0176694	368	9.9823306	3601.312	46
10.5354010	34308.446	45	15	10416.126	10.0177062	368	9.9822938	3600.498	45
10.5349310	34271.334	44	16	10417.009	10.0177431	369	9.9822569	3599.684	44
10.5344614	34234.269	43	17	10417.894	10.0177799	368	9.9822201	3598.869	43
10.5339922	34197.333	42	18	10418.780	10.0178169	370	9.9821831	3598.053	42
10.5335235	34160.443	41	19	10419.667	10.0178538	369	9.9821462	3597.236	41
10.5330552	34123.621	40	20	10420.554	10.0178908	370	9.9821092	3596.418	40
10.5325873	34086.882	39	21	10421.443	10.0179279	371	9.9820721	3595.600	39
10.5321198	34050.210	38	22	10422.333	10.0179649	370	9.9820351	3594.781	38
10.5316527	34013.612	37	23	10423.224	10.0180021	372	9.9819979	3593.961	37
10.5311861	33977.085	36	24	10424.116	10.0180392	371	9.9819608	3593.140	36
10.5307199	33940.631	35	25	10425.009	10.0180764	372	9.9819236	3592.318	35
10.5302541	33904.249	34	26	10425.903	10.0181137	373	9.9818865	3591.495	34
10.5297888	33867.938	33	27	10426.798	10.0181510	373	9.9818490	3590.672	33
10.5293238	33831.699	32	28	10427.694	10.0181883	373	9.9818117	3589.849	32
10.5288593	33795.531	31	29	10428.591	10.0182256	373	9.9817744	3589.023	31
10.5283952	33759.434	30	30	10429.489	10.0182630	374	9.9817370	3588.197	30
10.5279315	33723.408	29	31	10430.388	10.0183003	375	9.9816995	3587.370	29
10.5274682	33687.453	28	32	10431.289	10.0183380	375	9.9816620	3586.543	28
10.5270053	33651.568	27	33	10432.190	10.0183755	375	9.9816245	3585.715	27
10.5265428	33615.753	26	34	10433.092	10.0184130	375	9.9815870	3584.886	26
10.5260808	33580.000	25	35	10433.995	10.0184506	376	9.9815494	3584.056	25
10.5256192	33544.333	24	36	10434.900	10.0184883	377	9.9815117	3583.225	24
10.5251579	33508.728	23	37	10435.805	10.0185260	377	9.9814740	3582.394	23
10.5246971	33473.191	22	38	10436.712	10.0185637	377	9.9814363	3581.562	22
10.5242367	33437.724	21	39	10437.619	10.0186014	377	9.9813986	3580.729	21
10.5237767	33402.326	20	40	10438.528	10.0186392	378	9.9813608	3579.895	20
10.5233171	33366.997	19	41	10439.437	10.0186771	377	9.9813229	3579.060	19
10.5228575	33331.736	18	42	10440.348	10.0187150	379	9.9812850	3578.225	18
10.5223991	33296.543	17	43	10441.259	10.0187529	379	9.9812471	3577.389	17
10.5219408	33261.419	16	44	10442.172	10.0187909	380	9.9812091	3576.552	16
10.5214828	33226.362	15	45	10443.086	10.0188289	380	9.9811711	3575.714	15
10.5210252	33191.373	14	46	10444.001	10.0188669	381	9.9811331	3574.875	14
10.5205681	33156.452	13	47	10444.917	10.0189050	381	9.9810950	3574.035	13
10.5201113	33121.598	12	48	10445.833	10.0189431	381	9.9810569	3573.195	12
10.5196549	33086.811	11	49	10446.751	10.0189813	382	9.9810187	3572.354	11
10.5191989	33052.091	10	50	10447.670	10.0190195	382	9.9809805	3571.512	10
10.5187434	33017.438	9	51	10448.590	10.0190577	383	9.9809423	3570.669	9
10.5182882	32982.851	8	52	10449.511	10.0190960	383	9.9809040	3569.825	8
10.5178334	32948.330	7	53	10450.433	10.0191343	384	9.9808657	3568.981	7
10.5173790	32913.876	6	54	10451.357	10.0191727	384	9.9808273	3568.136	6
10.5169250	32879.487	5	55	10452.281	10.0192111	384	9.9807889	3567.290	5
10.5164714	32845.164	4	56	10453.206	10.0192495	385	9.9807505	3566.443	4
10.5160182	32810.907	3	57	10454.132	10.0192880	385	9.9807120	3565.595	3
10.5155654	32776.715	2	58	10455.056	10.0193264	385	9.9806735	3564.747	2
10.5151130	32742.588	1	59	10455.988	10.0193651	386	9.9806349	3563.898	1
10.5146610	32708.526	0	60	10456.918	10.0194037	386	9.9805962	3563.048	0
L. Tang.	N. Tan. 73						L. Sin.	N. Sin. 73	

17	N. Sin.	L. Sin.	Diff.			17	N. Tan.	L. Tan.	Diff.
1	223.717	9.4659353		10.5340647	34203.036	0	3057.307	9.4853390	
2	224.499	9.4663483	4130	10.5336517	34170.526	1	3060.488	9.4857907	4517
3	225.280	9.4667609	4126	10.5332391	34138.000	2	3063.669	9.4862419	4512
4	226.061	9.4671730	4121	10.5328270	34105.699	3	3066.851	9.4866928	4509
5	226.842	9.4675848	4118	10.5324152	34073.382	4	3070.034	9.4871433	4504
6	227.623	9.4679960	4112	10.5320040	34041.130	5	3073.218	9.4875933	4500
7	228.403	9.4684069	4109	10.5315921	34008.941	6	3076.402	9.4880430	4497
8	229.183	9.4688173	4104	10.5311827	33976.816	7	3079.586	9.4884924	4494
9	229.963	9.4692273	4100	10.5307727	33944.754	8	3082.771	9.4889413	4489
10	230.743	9.4696369	4096	10.5303631	33912.755	9	3085.957	9.4893898	4485
11	231.522	9.4700461	4092	10.5299539	33880.820	10	3089.143	9.4898380	4482
12	232.301	9.4704548	4087	10.5295452	33848.948	11	3092.330	9.4902858	4478
13	233.080	9.4708631	4083	10.5291369	33817.138	12	3095.517	9.4907332	4474
14	233.859	9.4712710	4079	10.5287290	33785.381	13	3098.705	9.4911802	4470
15	234.638	9.4716785	4075	10.5283215	33753.670	14	3101.893	9.4916269	4467
16	235.416	9.4720856	4071	10.5279144	33722.014	15	3105.082	9.4920731	4462
17	236.194	9.4724922	4066	10.5275078	33690.524	16	3108.272	9.4925190	4459
18	236.971	9.4728985	4063	10.5271015	33659.206	17	3111.462	9.4929645	4455
19	237.749	9.4733043	4058	10.5266957	33627.959	18	3114.653	9.4934097	4451
20	238.526	9.4737097	4054	10.5262903	33596.214	19	3117.844	9.4938545	4448
21	239.303	9.4741146	4049	10.5258854	33564.900	20	3121.036	9.4942988	4445
22	240.079	9.4745192	4046	10.5254808	33533.647	21	3124.229	9.4947429	4441
23	240.855	9.4749234	4042	10.5250766	33502.455	22	3127.422	9.4951865	4438
24	241.632	9.4753271	4037	10.5246729	33471.324	23	3130.616	9.4956296	4435
25	242.409	9.4757304	4033	10.5242696	33440.254	24	3133.810	9.4960727	4432
26	243.184	9.4761334	4030	10.5238666	33409.244	25	3137.005	9.4965152	4428
27	243.959	9.4765361	4025	10.5234641	33378.294	26	3140.200	9.4969574	4425
28	244.734	9.4769386	4021	10.5230620	33347.405	27	3143.396	9.4973991	4421
29	245.509	9.4773409	4016	10.5226604	33316.575	28	3146.593	9.4978406	4418
30	246.284	9.4777429	4013	10.5222591	33285.805	29	3149.790	9.4982816	4414
31	247.059	9.4781448	4009	10.5218582	33255.095	30	3152.988	9.4987223	4410
32	247.832	9.4785463	4005	10.5214577	33224.444	31	3156.186	9.4991626	4407
33	248.606	9.4789473	4000	10.5210577	33193.853	32	3159.385	9.4996026	4403
34	249.379	9.4793479	3997	10.5206580	33163.320	33	3162.585	9.5000422	4400
35	250.152	9.4797481	3992	10.5202588	33132.847	34	3165.785	9.5004814	4397
36	250.925	9.4801481	3989	10.5198599	33102.432	35	3168.986	9.5009202	4393
37	251.698	9.4805478	3984	10.5194615	33072.076	36	3172.187	9.5013588	4390
38	252.471	9.4809473	3981	10.5190634	33041.778	37	3175.389	9.5017969	4387
39	253.244	9.4813463	3976	10.5186658	33011.539	38	3178.591	9.5022347	4384
40	254.016	9.4817451	3973	10.5182685	32981.357	39	3181.794	9.5026721	4380
41	254.788	9.4821436	3968	10.5178717	32951.234	40	3184.998	9.5031092	4377
42	255.560	9.4825418	3965	10.5174752	32921.168	41	3188.202	9.5035459	4373
43	256.331	9.4829398	3960	10.5170792	32891.160	42	3191.407	9.5039822	4370
44	257.102	9.4833375	3957	10.5166835	32861.209	43	3194.613	9.5044182	4366
45	257.872	9.4837349	3952	10.5162883	32831.316	44	3197.819	9.5048538	4363
46	258.643	9.4841319	3949	10.5158934	32801.475	45	3201.025	9.5052891	4360
47	259.413	9.4845286	3944	10.5154990	32771.700	46	3204.232	9.5057240	4356
48	260.183	9.4849249	3941	10.5151049	32741.977	47	3207.440	9.5061586	4353
49	260.953	9.4853208	3937	10.5147112	32712.311	48	3210.649	9.5065928	4350
50	261.723	9.4857163	3932	10.5143180	32682.702	49	3213.858	9.5070267	4347
51	262.492	9.4861114	3929	10.5139251	32653.149	50	3217.067	9.5074602	4343
52	263.261	9.4865061	3925	10.5135326	32623.652	51	3220.277	9.5078933	4340
53	264.030	9.4868995	3921	10.5131405	32594.211	52	3223.488	9.5083261	4337
54	264.798	9.4872925	3917	10.5127488	32564.825	53	3226.700	9.5087586	4333
55	265.566	9.4876852	3914	10.5123574	32535.496	54	3229.912	9.5091907	4330
56	266.334	9.4880775	3909	10.5119665	32506.222	55	3233.125	9.5096224	4327
57	267.102	9.4884694	3905	10.5115760	32477.003	56	3236.338	9.5100539	4323
58	267.870	9.4888609	3902	10.5111858	32447.840	57	3239.552	9.5104849	4320
59	268.638	9.4892520	3898	10.5107960	32418.732	58	3242.766	9.5109156	4317
60	269.406	9.4896428	3894	10.5104066	32389.678	59	3245.981	9.5113460	4313
61	270.174	9.4899934	3890	10.5100176	32360.682	60	3249.197	9.5117760	4310
			Diff.	L. Sec.	N. Sec.				Diff.

		17	N. Sec.	L. Sec.	D		
10.5146610	32708.52660	1	10456.918	10.0194037	386	9.9805963	9563.04860
10.5142093	32674.52959	2	10457.848	10.0194423	387	9.9805577	9562.19759
10.5137581	32640.59658	3	10458.780	10.0194810	388	9.9805190	9561.34558
10.5133074	32606.72857	4	10459.712	10.0195197	389	9.9804803	9560.49257
10.5128567	32572.92456	5	10460.646	10.0195585	390	9.9804415	9559.63956
10.5124067	32539.13455	6	10461.581	10.0195973	391	9.9804027	9558.78555
10.5119570	32505.50854	7	10462.516	10.0196361	392	9.9803639	9557.93054
10.5115076	32471.89553	8	10463.453	10.0196750	393	9.9803250	9557.07453
10.5110587	32438.34652	9	10464.391	10.0197140	394	9.9802860	9556.21752
10.5106102	32404.80051	10	10465.330	10.0197529	395	9.9802471	9555.36051
10.5101620	32371.43850	11	10466.270	10.0197919	396	9.9802081	9554.50250
10.5097142	32338.07849	12	10467.211	10.0198310	397	9.9801690	9553.64349
10.5092668	32304.78048	13	10468.153	10.0198701	398	9.9801299	9552.78348
10.5088198	32271.54647	14	10469.096	10.0199092	399	9.9800908	9551.92247
10.5083734	32238.37346	15	10470.040	10.0199484	400	9.9800516	9551.06146
10.5079265	32205.26345	16	10470.980	10.0199876	401	9.9800124	9550.19945
10.5074810	32172.21544	17	10471.932	10.0200268	402	9.9799732	9549.33644
10.5070354	32139.22843	18	10472.879	10.0200661	403	9.9799339	9548.47243
10.5065903	32106.30442	19	10473.828	10.0201054	404	9.9798946	9547.60742
10.5061455	32073.44041	20	10474.777	10.0201448	405	9.9798552	9546.74241
10.5057012	32040.63840	21	10475.728	10.0201842	406	9.9798158	9545.87640
10.5052571	32007.89739	22	10476.679	10.0202236	407	9.9797764	9545.00939
10.5048135	31975.21738	23	10477.632	10.0202631	408	9.9797369	9544.14138
10.5043702	31942.59837	24	10478.586	10.0203027	409	9.9796973	9543.27237
10.5039273	31910.03936	25	10479.540	10.0203422	410	9.9796578	9542.40336
10.5034848	31877.54035	26	10480.496	10.0203818	411	9.9796182	9541.53335
10.5030426	31845.10234	27	10481.453	10.0204215	412	9.9795785	9540.66234
10.5026009	31812.72433	28	10482.411	10.0204612	413	9.9795388	9539.79033
10.5021594	31780.40632	29	10483.370	10.0205009	414	9.9794991	9538.91732
10.5017184	31748.14731	30	10484.330	10.0205407	415	9.9794593	9538.04331
10.5012777	31715.94830	31	10485.291	10.0205805	416	9.9794195	9537.16930
10.5008374	31683.80829	32	10486.253	10.0206204	417	9.9793796	9536.29429
10.5003974	31651.72828	33	10487.217	10.0206602	418	9.9793398	9535.41828
10.4999578	31619.70627	34	10488.181	10.0207002	419	9.9792998	9534.54127
10.4995186	31587.74426	35	10489.146	10.0207402	420	9.9792599	9533.66426
10.4990797	31555.84025	36	10490.113	10.0207802	421	9.9792198	9532.78625
10.4986412	31523.99424	37	10491.080	10.0208203	422	9.9791798	9531.90724
10.4982031	31492.20723	38	10492.049	10.0208603	423	9.9791397	9531.02723
10.4977653	31460.47822	39	10493.019	10.0209006	424	9.9790996	9530.14622
10.4973279	31428.80721	40	10493.989	10.0209406	425	9.9790594	9529.26421
10.4968908	31397.19420	41	10494.961	10.0209808	426	9.9790192	9528.38220
10.4964541	31365.63919	42	10495.934	10.0210211	427	9.9789789	9527.49919
10.4960178	31334.14118	43	10496.908	10.0210614	428	9.9789386	9526.61518
10.4955818	31302.70117	44	10497.883	10.0211017	429	9.9788983	9525.73017
10.4951462	31271.31716	45	10498.859	10.0211421	430	9.9788579	9524.84416
10.4947109	31239.99115	46	10499.836	10.0211825	431	9.9788175	9523.95815
10.4942760	31208.72214	47	10500.815	10.0212230	432	9.9787770	9523.07114
10.4938414	31177.50913	48	10501.794	10.0212635	433	9.9787365	9522.18313
10.4934072	31146.35312	49	10502.774	10.0213040	434	9.9786960	9521.29412
10.4929733	31115.25411	50	10503.756	10.0213446	435	9.9786554	9520.40411
10.4925398	31084.21010	51	10504.738	10.0213852	436	9.9786148	9519.51410
10.4921067	31053.2239	52	10505.722	10.0214259	437	9.9785741	9518.6239
10.4916739	31022.2918	53	10506.706	10.0214666	438	9.9785334	9517.7318
10.4912414	30991.4167	54	10507.692	10.0215073	439	9.9784927	9516.8387
10.4908093	30960.5966	55	10508.679	10.0215481	440	9.9784519	9515.9446
10.4903776	30929.8321	56	10509.667	10.0215885	441	9.9784111	9515.0495
10.4899461	30899.1224	57	10510.656	10.0216290	442	9.9783702	9514.1544
10.4895151	30868.4683	58	10511.646	10.0216697	443	9.9783293	9513.2583
10.4890844	30837.8692	59	10512.637	10.0217117	444	9.9782883	9512.3612
10.4886540	30807.3251	60	10513.629	10.0217526	445	9.9782474	9511.4631
10.4882240	30776.8350		10514.622	10.0217937	446	9.9782063	9510.5650
L. Tan.	N. Tan. 72				D	L. Sin.	N Sin 72

18	N. Sin.	L. Sin.	Diff.			18	N. Tan.	L. Tan.	Diff.
0	3090 170	9.4899824	3886	10.5100176	32360.680	0	3249.197	9.5117760	
1	3092.936	9.4903710	3887	10.5096290	32331.736	1	3252.413	9.5122057	4297
2	3095.702	9.4907592	3887	10.5092408	32302.846	2	3255.630	9.5126351	4294
3	3098.467	9.4911471	3874	10.5088529	32274.011	3	3258.848	9.5130641	4290
4	3101.234	9.4915345	3871	10.5084655	32245.230	4	3262.066	9.5134927	4286
5	3103.995	9.4919216	3867	10.5080784	32216.503	5	3265.285	9.5139211	4283
6	3106.764	9.4923083	3863	10.5076917	32187.830	6	3268.504	9.5143490	4280
7	3109.529	9.4926946	3860	10.5073054	32159.210	7	3271.724	9.5147766	4276
8	3112.294	9.4930806	3855	10.5069194	32130.644	8	3274.944	9.5152039	4273
9	3115.058	9.4934661	3852	10.5065335	32102.132	9	3278.165	9.5156309	4270
10	3117.822	9.4938513	3848	10.5061487	32073.673	10	3281.387	9.5160575	4266
11	3120.586	9.4942361	3844	10.5057639	32045.266	11	3284.610	9.5164838	4263
12	3123.345	9.4946205	3841	10.5053795	32016.913	12	3287.833	9.5169099	4259
13	3126.112	9.4950046	3837	10.5049954	31988.613	13	3291.056	9.5173353	4256
14	3128.875	9.4953883	3833	10.5046117	31960.355	14	3294.280	9.5177606	4253
15	3131.638	9.4957716	3829	10.5042284	31932.170	15	3297.505	9.5181855	4249
16	3134.400	9.4961545	3825	10.5038455	31904.028	16	3300.731	9.5186101	4246
17	3137.163	9.4965370	3822	10.5034630	31875.937	17	3303.957	9.5190344	4243
18	3139.925	9.4969192	3818	10.5030808	31847.899	18	3307.184	9.5194582	4239
19	3142.686	9.4973010	3814	10.5026990	31819.913	19	3310.411	9.5198819	4236
20	3145.448	9.4976824	3811	10.5023176	31791.978	20	3313.639	9.5203053	4233
21	3148.207	9.4980633	3807	10.5019365	31764.095	21	3316.868	9.5207282	4230
22	3150.969	9.4984442	3803	10.5015558	31736.264	22	3320.097	9.5211508	4226
23	3153.730	9.4988245	3800	10.5011755	31708.484	23	3323.327	9.5215730	4222
24	3156.490	9.4992045	3795	10.5007955	31680.756	24	3326.557	9.5219950	4219
25	3159.250	9.4995840	3793	10.5004160	31653.078	25	3329.788	9.5224166	4216
26	3162.010	9.4999633	3788	10.5000367	31625.452	26	3333.020	9.5228379	4213
27	3164.770	9.5003421	3784	10.4996579	31597.876	27	3336.252	9.5232589	4210
28	3167.528	9.5007206	3781	10.4992794	31570.351	28	3339.485	9.5236795	4206
29	3170.288	9.5010987	3778	10.4989013	31542.877	29	3342.719	9.5240999	4204
30	3173.047	9.5014764	3777	10.4985236	31515.453	30	3345.953	9.5245199	4200
31	3175.805	9.5018538	3774	10.4981462	31488.079	31	3349.188	9.5249395	4196
32	3178.562	9.5022308	3770	10.4977692	31460.756	32	3352.424	9.5253589	4194
33	3181.321	9.5026075	3767	10.4973925	31433.482	33	3355.660	9.5257779	4190
34	3184.079	9.5029838	3764	10.4970162	31406.259	34	3358.897	9.5261966	4187
35	3186.836	9.5033595	3759	10.4966403	31379.086	35	3362.134	9.5266150	4184
36	3189.593	9.5037353	3755	10.4962647	31351.962	36	3365.372	9.5270331	4181
37	3192.350	9.5041106	3752	10.4958895	31324.887	37	3368.611	9.5274508	4177
38	3195.106	9.5044853	3748	10.4955147	31297.863	38	3371.850	9.5278682	4174
39	3197.862	9.5048598	3745	10.4951402	31270.886	39	3375.090	9.5282853	4171
40	3200.619	9.5052339	3741	10.4947661	31243.955	40	3378.330	9.5287021	4168
41	3203.374	9.5056077	3738	10.4943923	31217.081	41	3381.571	9.5291186	4165
42	3206.130	9.5059811	3734	10.4940189	31190.252	42	3384.813	9.5295347	4161
43	3208.885	9.5063542	3731	10.4936458	31163.472	43	3388.056	9.5299505	4158
44	3211.640	9.5067269	3727	10.4932731	31136.740	44	3391.298	9.5303661	4156
45	3214.395	9.5070995	3723	10.4929008	31110.057	45	3394.543	9.5307813	4152
46	3217.149	9.5074712	3720	10.4925288	31083.422	46	3397.787	9.5311961	4148
47	3219.903	9.5078428	3716	10.4921572	31056.835	47	3401.032	9.5316107	4145
48	3222.657	9.5082141	3713	10.4917859	31030.296	48	3404.278	9.5320250	4143
49	3225.410	9.5085850	3709	10.4914150	31003.805	49	3407.524	9.5324389	4139
50	3228.164	9.5089556	3706	10.4910444	30977.363	50	3410.771	9.5328526	4137
51	3230.917	9.5093255	3698	10.4906742	30950.967	51	3414.019	9.5332659	4133
52	3233.670	9.5096956	3695	10.4903044	30924.620	52	3417.267	9.5336789	4130
53	3236.422	9.5100651	3692	10.4899349	30898.319	53	3420.516	9.5340916	4127
54	3239.174	9.5104343	3688	10.4895657	30872.066	54	3423.765	9.5345040	4124
55	3241.926	9.5108031	3685	10.4891969	30845.860	55	3427.015	9.5349161	4120
56	3244.678	9.5111716	3681	10.4888284	30819.702	56	3430.266	9.5353278	4117
57	3247.429	9.5115397	3677	10.4884603	30793.590	57	3433.518	9.5357393	4113
58	3250.180	9.5119074	3675	10.4880926	30767.525	58	3436.770	9.5361505	4108
59	3252.932	9.5122749	3670	10.4877251	30741.507	59	3440.023	9.5365613	4106
60	3255.682	9.5126419	3670	10.4873581	30715.535	60	3443.276	9.5369719	4104
			Diff.	L. Sec.	N. Sec.				

			18.	N. Sec.	L. Sec.	D.			
10.4882240	30776.835	60	0	10514.622	10.0217937	9.9782063	9510.565	60	
10.4877943	30746.400	59	1	10515.617	10.0218347	9.9781653	9509.666	59	
10.4873645	30716.020	58	2	10516.612	10.0218759	9.9781241	9508.766	58	
10.4869355	30685.693	57	3	10517.608	10.0219170	9.9780830	9507.865	57	
10.4865073	30655.421	56	4	10518.606	10.0219582	9.9780418	9506.963	56	
10.4860790	30625.203	55	5	10519.605	10.0219994	9.9780006	9506.060	55	
10.4856510	30595.038	54	6	10520.604	10.0220407	9.9779593	9505.157	54	
10.4852234	30564.928	53	7	10521.605	10.0220820	9.9779180	9504.253	53	
10.4847961	30534.870	52	8	10522.607	10.0221234	9.9778766	9503.348	52	
10.4843691	30504.866	51	9	10523.610	10.0221647	9.9778353	9502.442	51	
10.4839423	30474.915	50	10	10524.614	10.0222052	9.9777938	9501.536	50	
10.4835162	30445.018	49	11	10525.619	10.0222477	9.9777523	9500.629	49	
10.4830903	30415.173	48	12	10526.625	10.0222892	9.9777108	9499.721	48	
10.4826647	30385.381	47	13	10527.633	10.0223307	9.9776693	9498.812	47	
10.4822394	30355.641	46	14	10528.641	10.0223722	9.9776277	9497.902	46	
10.4818145	30325.954	45	15	10529.651	10.0224140	9.9775860	9496.991	45	
10.4813896	30296.320	44	16	10530.661	10.0224556	9.9775444	9496.080	44	
10.4809656	30266.733	43	17	10531.673	10.0224974	9.9775026	9495.168	43	
10.4805417	30237.207	42	18	10532.686	10.0225391	9.9774609	9494.255	42	
10.4801181	30207.728	41	19	10533.699	10.0225808	9.9774191	9493.341	41	
10.4796948	30178.301	40	20	10534.714	10.0226228	9.9773772	9492.426	40	
10.4792716	30148.926	39	21	10535.730	10.0226648	9.9773354	9491.511	39	
10.4788492	30119.602	38	22	10536.747	10.0227066	9.9772934	9490.595	38	
10.4784270	30090.330	37	23	10537.765	10.0227485	9.9772515	9489.678	37	
10.4780050	30061.109	36	24	10538.785	10.0227905	9.9772095	9488.760	36	
10.4775834	30031.939	35	25	10539.805	10.0228326	9.9771674	9487.841	35	
10.4771621	30002.820	34	26	10540.826	10.0228747	9.9771253	9486.922	34	
10.4767411	29973.751	33	27	10541.845	10.0229168	9.9770832	9486.002	33	
10.4763205	29944.734	32	28	10542.873	10.0229590	9.9770410	9485.081	32	
10.4759001	29915.766	31	29	10543.897	10.0230012	9.9769988	9484.159	31	
10.4754801	29886.850	30	30	10544.923	10.0230434	9.9769566	9483.236	30	
10.4750605	29857.983	29	31	10545.950	10.0230857	9.9769143	9482.313	29	
10.4746411	29829.166	28	32	10546.978	10.0231280	9.9768720	9481.389	28	
10.4742221	29800.400	27	33	10548.007	10.0231704	9.9768296	9480.464	27	
10.4738034	29771.683	26	34	10549.037	10.0232128	9.9767872	9479.538	26	
10.4733850	29743.016	25	35	10550.068	10.0232553	9.9767447	9478.611	25	
10.4729669	29714.399	24	36	10551.101	10.0232978	9.9767022	9477.684	24	
10.4725492	29685.831	23	37	10552.134	10.0233403	9.9766597	9476.756	23	
10.4721318	29657.312	22	38	10553.169	10.0233829	9.9766171	9475.827	22	
10.4717147	29628.842	21	39	10554.204	10.0234255	9.9765745	9474.897	21	
10.4712975	29600.422	20	40	10555.241	10.0234682	9.9765318	9473.966	20	
10.4708814	29572.050	19	41	10556.279	10.0235109	9.9764891	9473.035	19	
10.4704653	29543.727	18	42	10557.318	10.0235536	9.9764464	9472.103	18	
10.4700495	29515.453	17	43	10558.358	10.0235964	9.9764036	9471.170	17	
10.4696339	29487.227	16	44	10559.399	10.0236392	9.9763608	9470.236	16	
10.4692187	29459.050	15	45	10560.441	10.0236821	9.9763179	9469.301	15	
10.4688035	29430.921	14	46	10561.485	10.0237250	9.9762750	9468.366	14	
10.4683893	29402.840	13	47	10562.529	10.0237679	9.9762321	9467.430	13	
10.4679750	29374.807	12	48	10563.575	10.0238109	9.9761891	9466.493	12	
10.4675611	29346.822	11	49	10564.621	10.0238539	9.9761461	9465.555	11	
10.4671474	29318.885	10	50	10565.669	10.0238970	9.9761030	9464.616	10	
10.4667341	29290.995	9	51	10566.718	10.0239401	9.9760599	9463.676	9	
10.4663211	29263.152	8	52	10567.768	10.0239833	9.9760167	9462.736	8	
10.4659084	29235.358	7	53	10568.819	10.0240264	9.9759736	9461.795	7	
10.4654960	29207.610	6	54	10569.871	10.0240697	9.9759303	9460.853	6	
10.4650839	29179.909	5	55	10570.924	10.0241130	9.9758870	9459.910	5	
10.4646722	29152.264	4	56	10571.978	10.0241562	9.9758437	9458.967	4	
10.4642607	29124.669	3	57	10573.034	10.0241996	9.9758004	9458.023	3	
10.4638495	29097.089	2	58	10574.090	10.0242430	9.9757570	9457.078	2	
10.4634387	29069.576	1	59	10575.148	10.0242865	9.9757135	9456.132	1	
10.4630281	29042.109	0	60	10576.207	10.0243299	9.9756701	9455.185	0	
L. Tan.	N. Tan.	71				D.	L. Sin.	N. Sin.	71

19	N. Sin	L. Sin.	Diff.			19	N. Tan	L. Tan	Diff.
0	3255.682	9.5126419		10 4873581	30715.535	60	3443.276	9.5369719	
1	3258.432	9.5130086	3667	10.4869914	30689.610	59	3446.530	9.5373821	4102
2	3261.182	9.5133750	3664	10.4866250	30663.731	58	3449.785	9.5377920	4099
3	3263.931	9.5137410	3660	10.4862550	30637.898	57	3453.040	9.5382017	4097
4	3266.681	9.5141067	3657	10.4858933	30612.111	56	3456.296	9.5386110	4093
5	3269.430	9.5144721	3654	10.4855279	30586.370	55	3459.553	9.5390200	4090
6	3272.175	9.5148371	3650	10.4851629	30560.675	54	3462.810	9.5394287	4087
7	3274.928	9.5152017	3646	10.4847983	30535.026	53	3466.068	9.5398371	4084
8	3277.677	9.5155660	3643	10.4844340	30509.423	52	3469.327	9.5402453	4082
9	3280.424	9.5159300	3640	10.4840700	30483.864	51	3472.586	9.5406531	4078
10	3283.172	9.5162936	3636	10.4837064	30458.352	50	3475.846	9.5410606	4075
11	3285.919	9.5166569	3633	10.4833431	30432.884	49	3479.107	9.5414678	4072
12	3288.666	9.5170198	3629	10.4829802	30407.462	48	3482.366	9.5418747	4069
13	3291.413	9.5173824	3626	10.4826176	30382.084	47	3485.630	9.5422813	4066
14	3294.160	9.5177447	3623	10.4822553	30356.752	46	3488.893	9.5426877	4064
15	3296.906	9.5181066	3619	10.4818934	30331.464	45	3492.156	9.5430939	4060
16	3299.652	9.5184682	3616	10.4815318	30306.221	44	3495.420	9.5434994	4057
17	3302.398	9.5188295	3613	10.4811705	30281.023	43	3498.685	9.5439048	4054
18	3305.144	9.5191904	3609	10.4808096	30255.868	42	3501.950	9.5443100	4052
19	3307.889	9.5195510	3606	10.4804490	30230.759	41	3505.216	9.5447148	4049
20	3310.634	9.5199112	3602	10.4800888	30205.693	40	3508.483	9.5451193	4045
21	3313.379	9.5202711	3599	10.4797289	30180.672	39	3511.750	9.5455236	4043
22	3316.123	9.5206307	3596	10.4793693	30155.694	38	3515.018	9.5459276	4040
23	3318.867	9.5209899	3592	10.4790101	30130.760	37	3518.287	9.5463312	4036
24	3321.611	9.5213488	3589	10.4786512	30105.870	36	3521.556	9.5467346	4034
25	3324.355	9.5217074	3586	10.4782926	30081.024	35	3524.826	9.5471377	4031
26	3327.098	9.5220656	3582	10.4779344	30056.221	34	3528.097	9.5475405	4028
27	3329.841	9.5224235	3579	10.4775765	30031.462	33	3531.368	9.5479430	4025
28	3332.584	9.5227811	3576	10.4772189	30006.746	32	3534.640	9.5483452	4022
29	3335.327	9.5231383	3572	10.4768617	29982.073	31	3537.913	9.5487471	4019
30	3338.069	9.5234953	3570	10.4765047	29957.443	30	3541.186	9.5491487	4016
31	3340.810	9.5238518	3565	10.4761482	29932.850	29	3544.460	9.5495500	4013
32	3343.552	9.5242081	3563	10.4757919	29908.312	28	3547.735	9.5499511	4011
33	3346.293	9.5245640	3559	10.4754350	29883.811	27	3551.010	9.5503519	4008
34	3349.034	9.5249196	3556	10.4750804	29859.352	26	3554.286	9.5507523	4004
35	3351.775	9.5252749	3553	10.4747251	29834.936	25	3557.563	9.5511525	4002
36	3354.516	9.5256298	3549	10.4743702	29810.563	24	3560.840	9.5515525	3999
37	3357.256	9.5259844	3546	10.4740155	29786.231	23	3564.118	9.5519521	3997
38	3359.996	9.5263387	3543	10.4736613	29761.942	22	3567.397	9.5523514	3993
39	3362.735	9.5266927	3540	10.4733073	29737.695	21	3570.676	9.5527504	3990
40	3365.475	9.5270463	3536	10.4729537	29713.490	20	3573.956	9.5531492	3988
41	3368.214	9.5273997	3534	10.4726003	29689.327	19	3577.237	9.5535477	3985
42	3370.953	9.5277526	3529	10.4722474	29665.205	18	3580.518	9.5539459	3982
43	3373.691	9.5281053	3527	10.4718947	29641.125	17	3583.800	9.5543438	3979
44	3376.429	9.5284577	3524	10.4715423	29617.087	16	3587.083	9.5547415	3977
45	3379.167	9.5288097	3520	10.4711903	29593.090	15	3590.367	9.5551388	3973
46	3381.905	9.5291614	3517	10.4708386	29569.135	14	3593.651	9.5555359	3971
47	3384.642	9.5295128	3514	10.4704872	29545.221	13	3596.936	9.5559327	3968
48	3387.375	9.5298638	3510	10.4701362	29521.348	12	3600.222	9.5563292	3965
49	3390.116	9.5302146	3508	10.4697854	29497.510	11	3603.508	9.5567255	3963
50	3392.853	9.5305650	3504	10.4694350	29473.725	10	3606.795	9.5571214	3959
51	3395.589	9.5309151	3501	10.4690849	29449.975	9	3610.083	9.5575171	3957
52	3398.325	9.5312649	3498	10.4687351	29426.265	8	3613.371	9.5579125	3954
53	3401.060	9.5316143	3494	10.4683857	29402.597	7	3616.660	9.5583077	3952
54	3403.795	9.5319635	3492	10.4680365	29378.968	6	3619.950	9.5587025	3948
55	3406.530	9.5323123	3488	10.4676877	29355.380	5	3623.240	9.5590971	3946
56	3409.265	9.5326608	3485	10.4673392	29331.833	4	3626.531	9.5594914	3943
57	3412.000	9.5330090	3482	10.4669910	29308.326	3	3629.823	9.5598854	3940
58	3414.734	9.5333569	3479	10.4666431	29284.858	2	3633.115	9.5602792	3938
59	3417.468	9.5337044	3475	10.4662956	29261.431	1	3636.408	9.5606727	3935
60	3420.202	9.5340517	3473	10.4659483	29238.044	0	3639.702	9.5610659	3932
			Diff.	L. Sec.		170			Diff.

19 N Dec.		L. Dec.		D.	
10.4630281	29042.169 60	0	10576.207	10.0243299	9.9756701
10.4626179	29014.688 59	1	10577.267	10.0243735	9.9756265
10.4622080	28987.314 58	2	10578.328	10.0244170	9.9755830
10.4617983	28959.986 57	3	10579.390	10.0244605	9.9755394
10.4613890	28932.704 56	4	10580.453	10.0245043	9.9754957
10.4609803	28905.467 55	5	10581.517	10.0245479	9.9754521
10.4605713	28878.277 54	6	10582.583	10.0245917	9.9754083
10.4601629	28851.132 53	7	10583.649	10.0246354	9.9753646
10.4597547	28824.033 52	8	10584.717	10.0246792	9.9753208
10.4593469	28796.979 51	9	10585.786	10.0247231	9.9752769
10.4589394	28769.970 50	10	10586.855	10.0247670	9.9752330
10.4585322	28743.007 49	11	10587.926	10.0248109	9.9751891
10.4581253	28716.088 48	12	10588.999	10.0248549	9.9751451
10.4577187	28689.215 47	13	10590.072	10.0248989	9.9751011
10.4573123	28662.386 46	14	10591.146	10.0249430	9.9750570
10.4569063	28635.602 45	15	10592.221	10.0249871	9.9750129
10.4565006	28608.863 44	16	10593.298	10.0250312	9.9749688
10.4560955	28582.168 43	17	10594.376	10.0250754	9.9749246
10.4556900	28555.517 42	18	10595.454	10.0251196	9.9748804
10.4552852	28528.911 41	19	10596.534	10.0251639	9.9748361
10.4548807	28502.349 40	20	10597.615	10.0252082	9.9747918
10.4544764	28475.831 39	21	10598.697	10.0252525	9.9747475
10.4540724	28449.355 38	22	10599.781	10.0252969	9.9747031
10.4536688	28422.926 37	23	10600.865	10.0253413	9.9746587
10.4532654	28396.539 36	24	10601.951	10.0253858	9.9746142
10.4528623	28370.196 35	25	10603.037	10.0254303	9.9745697
10.4524595	28343.895 34	26	10604.125	10.0254748	9.9745252
10.4520570	28317.639 33	27	10605.214	10.0255194	9.9744806
10.4516548	28291.426 32	28	10606.304	10.0255641	9.9744359
10.4512529	28265.256 31	29	10607.395	10.0256087	9.9743913
10.4508513	28239.129 30	30	10608.487	10.0256534	9.9743466
10.4504500	28213.045 29	31	10609.580	10.0256982	9.9743018
10.4500489	28187.003 28	32	10610.675	10.0257430	9.9742570
10.4496481	28161.004 27	33	10611.770	10.0257878	9.9742122
10.4492477	28135.049 26	34	10612.867	10.0258327	9.9741673
10.4488475	28109.134 25	35	10613.965	10.0258776	9.9741224
10.4484476	28083.263 24	36	10615.064	10.0259226	9.9740774
10.4480479	28057.433 23	37	10616.164	10.0259676	9.9740324
10.4476486	28031.646 22	38	10617.265	10.0260127	9.9739873
10.4472496	28005.901 21	39	10618.367	10.0260578	9.9739422
10.4468508	27980.198 20	40	10619.471	10.0261029	9.9738971
10.4464523	27954.537 19	41	10620.575	10.0261481	9.9738519
10.4460541	27928.917 18	42	10621.681	10.0261933	9.9738067
10.4456562	27903.339 17	43	10622.788	10.0262385	9.9737615
10.4452585	27877.802 16	44	10623.896	10.0262838	9.9737162
10.4448612	27852.307 15	45	10624.005	10.0263291	9.9736709
10.4444641	27826.853 14	46	10625.115	10.0263745	9.9736255
10.4440673	27801.440 13	47	10626.227	10.0264199	9.9735801
10.4436703	27776.069 12	48	10628.339	10.0264654	9.9735346
10.4432745	27750.738 11	49	10629.453	10.0265109	9.9734891
10.4428786	27725.448 10	50	10630.568	10.0265565	9.9734435
10.4424829	27700.199 9	51	10631.684	10.0266020	9.9733980
10.4420875	27674.990 8	52	10632.801	10.0266477	9.9733523
10.4416923	27649.822 7	53	10633.919	10.0266933	9.9733067
10.4412975	27624.695 6	54	10635.038	10.0267390	9.9732611
10.4409029	27599.608 5	55	10636.158	10.0267845	9.9732152
10.4405086	27574.561 4	56	10637.280	10.0268306	9.9731694
10.4401146	27549.554 3	57	10638.403	10.0268764	9.9731236
10.4397208	27524.588 2	58	10639.527	10.0269223	9.9730777
10.4393273	27499.661 1	59	10640.652	10.0269682	9.9730318
10.4389341	27474.774 0	60	10641.778	10.0270142	9.9729858
L. Tan.	N. Tan.				D. L. Sin.
					N. Sin

20	N. Sin.	L. Sin.	Diff				20	J. Tan.	L. Tan.	Diff
0	3420.202	9.5340517	3469	10.4659483	29238.044	60	0	3639.702	9.5610659	3299
1	3422.935	9.5343986	3469	10.4659483	29214.697	59	1	3642.997	9.5614588	3299
2	3425.668	9.5347452	3469	10.4659483	29191.389	58	2	3646.292	9.5618515	3299
3	3428.401	9.5350915	3469	10.4659483	29168.121	57	3	3649.588	9.5622439	3299
4	3431.133	9.5354375	3469	10.4659483	29144.892	56	4	3652.885	9.5626360	3299
5	3433.865	9.5357832	3457	10.4642168	29121.703	55	5	3656.182	9.5630278	3298
6	3436.597	9.5361286	3454	10.4638714	29098.553	54	6	3659.480	9.5634194	3298
7	3439.329	9.5364737	3451	10.4635263	29075.443	53	7	3662.779	9.5638107	3298
8	3442.060	9.5368184	3447	10.4631816	29052.372	52	8	3666.079	9.5642018	3297
9	3444.791	9.5371628	3444	10.4628372	29029.339	51	9	3669.379	9.5645925	3297
10	3447.522	9.5375070	3442	10.4624930	29006.346	50	10	3672.680	9.5649831	3296
11	3450.252	9.5378508	3438	10.4621482	28983.391	49	11	3675.982	9.5653733	3296
12	3452.982	9.5381943	3435	10.4618037	28960.475	48	12	3679.284	9.5657633	3295
13	3455.712	9.5385375	3432	10.4614585	28937.598	47	13	3682.587	9.5661530	3295
14	3458.442	9.5388804	3429	10.4611136	28914.760	46	14	3685.891	9.5665424	3294
15	3461.171	9.5392230	3426	10.4607700	28891.959	45	15	3689.195	9.5669316	3294
16	3463.900	9.5395653	3423	10.4604267	28869.198	44	16	3692.490	9.5673205	3293
17	3466.629	9.5399073	3420	10.4600827	28846.474	43	17	3695.785	9.5677091	3293
18	3469.357	9.5402489	3416	10.4597351	28823.789	42	18	3699.081	9.5680975	3292
19	3472.085	9.5405903	3414	10.4594007	28801.142	41	19	3702.378	9.5684856	3291
20	3474.813	9.5409314	3411	10.4590686	28778.532	40	20	3705.675	9.5688735	3291
21	3477.540	9.5412721	3407	10.4587379	28755.961	39	21	3708.972	9.5692611	3290
22	3480.267	9.5416126	3405	10.4584074	28733.438	38	22	3712.269	9.5696484	3290
23	3482.994	9.5419527	3401	10.4580770	28710.932	37	23	3715.566	9.5700355	3289
24	3485.721	9.5422926	3399	10.4577474	28688.474	36	24	3718.863	9.5704223	3288
25	3488.447	9.5426321	3395	10.4574179	28666.053	35	25	3722.159	9.5708098	3288
26	3491.173	9.5429713	3392	10.4570887	28643.670	34	26	3725.456	9.5711971	3287
27	3493.899	9.5433103	3390	10.4567597	28621.324	33	27	3728.753	9.5715841	3286
28	3496.624	9.5436489	3386	10.4564311	28599.013	32	28	3732.050	9.5719709	3285
29	3499.349	9.5439873	3384	10.4561027	28576.744	31	29	3735.347	9.5723574	3285
30	3502.074	9.5443253	3380	10.4557747	28554.509	30	30	3738.644	9.5727437	3284
31	3504.799	9.5446630	3377	10.4554470	28532.312	29	31	3741.941	9.5731297	3284
32	3507.523	9.5450005	3375	10.4551194	28510.152	28	32	3745.238	9.5735154	3283
33	3510.247	9.5453376	3371	10.4547921	28488.028	27	33	3748.535	9.5739009	3283
34	3512.970	9.5456745	3369	10.4544649	28465.941	26	34	3751.832	9.5742861	3282
35	3515.693	9.5460110	3365	10.4541379	28443.891	25	35	3755.129	9.5746711	3281
36	3518.416	9.5463472	3362	10.4538109	28421.877	24	36	3758.426	9.5750558	3281
37	3521.139	9.5466832	3360	10.4534838	28399.899	23	37	3761.723	9.5754402	3280
38	3523.862	9.5470189	3357	10.4531568	28377.958	22	38	3765.020	9.5758243	3280
39	3526.584	9.5473542	3353	10.4528298	28356.054	21	39	3768.317	9.5762081	3279
40	3529.306	9.5476893	3351	10.4525028	28334.185	20	40	3771.614	9.5765916	3278
41	3532.027	9.5480240	3347	10.4521758	28312.353	19	41	3774.911	9.5769748	3278
42	3534.748	9.5483585	3345	10.4518488	28290.556	18	42	3778.208	9.5773577	3277
43	3537.469	9.5486927	3342	10.4515218	28268.796	17	43	3781.505	9.5777402	3276
44	3540.190	9.5490266	3339	10.4511948	28247.071	16	44	3784.802	9.5781224	3276
45	3542.910	9.5493602	3336	10.4508678	28225.382	15	45	3788.099	9.5785043	3275
46	3545.630	9.5496935	3333	10.4505408	28203.729	14	46	3791.396	9.5788859	3275
47	3548.350	9.5500265	3330	10.4502138	28182.111	13	47	3794.693	9.5792672	3274
48	3551.070	9.5503592	3327	10.4498868	28160.529	12	48	3797.990	9.5796482	3274
49	3553.789	9.5506916	3324	10.4495598	28138.982	11	49	3801.287	9.5800289	3273
50	3556.508	9.5510237	3321	10.4492328	28117.471	10	50	3804.584	9.5804092	3272
51	3559.226	9.5513556	3319	10.4489058	28095.995	9	51	3807.881	9.5807891	3272
52	3561.944	9.5516871	3315	10.4485788	28074.554	8	52	3811.178	9.5811688	3271
53	3564.662	9.5520184	3313	10.4482518	28053.148	7	53	3814.475	9.5815482	3270
54	3567.380	9.5523494	3310	10.4479248	28031.777	6	54	3817.772	9.5819274	3270
55	3570.097	9.5526801	3307	10.4475978	28010.441	5	55	3821.069	9.5823064	3269
56	3572.814	9.5530105	3304	10.4472708	27989.140	4	56	3824.366	9.5826851	3269
57	3575.531	9.5533406	3301	10.4469438	27967.873	3	57	3827.663	9.5830635	3268
58	3578.248	9.5536702	3298	10.4466168	27946.641	2	58	3830.960	9.5834417	3268
59	3580.964	9.5539999	3295	10.4462898	27925.444	1	59	3834.257	9.5838197	3267
60	3583.679	9.5543292	3293	10.4459628	27904.281	0	60	3837.554	9.5841974	3267
Diff				L. Sec.	N. Sec. 69		Diff			

			20	N. Sec.	L. Sec.	D.			
10.4 389241	27474.774	60	0	10611.778	10.0270142	9.9729858	9396.926	00	
10.4385412	27449.927	55	1	10642.905	10.0270602	9.9729398	9395.931	59	
10.4381485	27425.120	58	2	10644.033	10.0271062	9.9729338	9394.935	58	
10.4377561	27400.352	57	3	10645.163	10.0271522	9.9728477	9393.938	57	
10.4373640	27375.623	56	4	10646.294	10.0271982	9.9728016	9392.940	56	
10.4369721	27350.934	55	5	10647.426	10.0272442	9.9727554	9391.942	55	
10.4365806	27326.284	54	6	10648.559	10.0272902	9.9727092	9390.943	54	
10.4361893	27301.674	53	7	10649.693	10.0273362	9.9726632	9389.943	53	
10.4357982	27277.102	52	8	10650.828	10.0273822	9.9726166	9388.942	52	
10.4354075	27252.569	51	9	10651.964	10.0274282	9.9725703	9387.940	51	
10.4350169	27228.075	50	10	10653.101	10.0274742	9.9725239	9386.937	50	
10.4346267	27203.620	49	11	10654.240	10.0275202	9.9724775	9385.934	49	
10.4342367	27179.204	48	12	10655.380	10.0275662	9.9724310	9384.930	48	
10.4338470	27154.826	47	13	10656.521	10.0276122	9.9723845	9383.925	47	
10.4334576	27130.487	46	14	10657.663	10.0276582	9.9723380	9382.919	46	
10.4330684	27106.186	45	15	10658.807	10.0277042	9.9722914	9381.913	45	
10.4326795	27081.923	44	16	10659.951	10.0277502	9.9722448	9380.906	44	
10.4322909	27057.699	43	17	10661.097	10.0277962	9.9721981	9379.898	43	
10.4319025	27033.513	42	18	10662.243	10.0278422	9.9721514	9378.889	42	
10.4315144	27009.364	41	19	10663.391	10.0278882	9.9721047	9377.879	41	
10.4311265	26985.254	40	20	10664.540	10.0279342	9.9720579	9376.869	40	
10.4307389	26961.181	39	21	10665.690	10.0279802	9.9720110	9375.858	39	
10.4303516	26937.147	38	22	10666.842	10.0280262	9.9719642	9374.846	38	
10.4299645	26913.149	37	23	10667.994	10.0280722	9.9719172	9373.833	37	
10.4295777	26889.190	36	24	10669.148	10.0281182	9.9718703	9372.819	36	
10.4291912	26865.267	35	25	10670.302	10.0281642	9.9718233	9371.805	35	
10.4288049	26841.383	34	26	10671.458	10.0282102	9.9717762	9370.790	34	
10.4284189	26817.535	33	27	10672.615	10.0282562	9.9717291	9369.774	33	
10.4280331	26793.725	32	28	10673.774	10.0283022	9.9716820	9368.757	32	
10.4276476	26769.951	31	29	10674.934	10.0283482	9.9716348	9367.740	31	
10.4272623	26746.215	30	30	10676.094	10.0283942	9.9715876	9366.722	30	
10.4268773	26722.516	29	31	10677.255	10.0284402	9.9715404	9365.703	29	
10.4264926	26698.853	28	32	10678.418	10.0284862	9.9714931	9364.683	28	
10.4261081	26675.227	27	33	10679.582	10.0285322	9.9714457	9363.662	27	
10.4257239	26651.638	26	34	10680.747	10.0285782	9.9713984	9362.640	26	
10.4253399	26628.085	25	35	10681.914	10.0286242	9.9713509	9361.618	25	
10.4249562	26604.569	24	36	10683.081	10.0286702	9.9713035	9360.595	24	
10.4245728	26581.089	23	37	10684.250	10.0287162	9.9712560	9359.571	23	
10.4241896	26557.645	22	38	10685.420	10.0287622	9.9712084	9358.546	22	
10.4238066	26534.238	21	39	10686.591	10.0288082	9.9711608	9357.521	21	
10.4234239	26510.857	20	40	10687.763	10.0288542	9.9711132	9356.495	20	
10.4230415	26487.511	19	41	10688.936	10.0289002	9.9710655	9355.468	19	
10.4226593	26464.232	18	42	10690.110	10.0289462	9.9710178	9354.440	18	
10.4222774	26440.969	17	43	10691.286	10.0290000	9.9709701	9353.411	17	
10.4218957	26417.741	16	44	10692.463	10.0290538	9.9709223	9352.382	16	
10.4215142	26394.549	15	45	10693.641	10.0291076	9.9708744	9351.352	15	
10.4211331	26371.392	14	46	10694.820	10.0291614	9.9708265	9350.321	14	
10.4207521	26348.271	13	47	10696.000	10.0292152	9.9707786	9349.289	13	
10.4203714	26325.186	12	48	10697.182	10.0292690	9.9707306	9348.256	12	
10.4199910	26302.136	11	49	10698.364	10.0293228	9.9706826	9347.223	11	
10.4196108	26279.121	10	50	10699.548	10.0293766	9.9706346	9346.189	10	
10.4192302	26256.141	9	51	10700.733	10.0294304	9.9705865	9345.154	9	
10.4188501	26233.196	8	52	10701.919	10.0294842	9.9705383	9344.118	8	
10.4184718	26210.286	7	53	10703.106	10.0295380	9.9704902	9343.082	7	
10.4180926	26187.411	6	54	10704.295	10.0295918	9.9704419	9342.045	6	
10.4177136	26164.571	5	55	10705.484	10.0296456	9.9703937	9341.007	5	
10.4173349	26141.766	4	56	10706.675	10.0296994	9.9703454	9339.968	4	
10.4169565	26118.995	3	57	10707.867	10.0297532	9.9702970	9338.928	3	
10.4165783	26096.259	2	58	10709.060	10.0298070	9.9702486	9337.887	2	
10.4162003	26073.550	1	59	10710.254	10.0298608	9.9702002	9336.846	1	
10.4158226	26050.891	0	60	10711.450	10.0299146	9.9701517	9335.804	0	
L. Tang.			N. Tan. 69			L. Sin.			N. Sin. 65

21	N. Sin.	L. Sin.	Diff.			21	N. Tan.	L. Tan.	Diff.
0	358.69	9.5543292		10.4456708	27904.28100	0	3838.640	9.5841774	
1	3586.395	9.5546581	3289	10.4453419	27883.15359	1	3841.978	9.5845549	3775
2	3589.110	9.5549868	3287	10.4450132	27862.05958	2	3845.317	9.5849321	3772
3	3591.825	9.5553152	3284	10.4446848	27840.99957	3	3848.656	9.5853091	3770
4	3594.540	9.5556433	3281	10.4443567	27819.97350	4	3851.996	9.5856859	3768
5	3597.254	9.5559711	3278	10.4440289	27798.98255	5	3855.337	9.5860622	3766
6	3599.968	9.5562987	3276	10.4437013	27778.02454	6	3858.679	9.5864386	3764
7	3602.682	9.5566259	3272	10.4433741	27757.10053	7	3862.021	9.5868147	3761
8	3605.395	9.5569529	3270	10.4430471	27736.21152	8	3865.364	9.5871904	3757
9	3608.108	9.5572796	3267	10.4427204	27715.35951	9	3868.708	9.5875660	3756
10	3610.821	9.5576060	3264	10.4423949	27694.53250	10	3872.053	9.5879413	3753
11	3613.533	9.5579321	3261	10.4420679	27673.74349	11	3875.398	9.5883163	3750
12	3616.246	9.5582579	3258	10.4417421	27652.98848	12	3878.744	9.5886912	3749
13	3618.958	9.5585835	3256	10.4414155	27632.26647	13	3882.091	9.5890657	3745
14	3621.669	9.5589088	3253	10.4410912	27611.57845	14	3885.439	9.5894401	3744
15	3624.380	9.5592338	3250	10.4407662	27590.92345	15	3888.787	9.5898142	3741
16	3627.091	9.5595585	3247	10.4404415	27570.30144	16	3892.136	9.5901881	3739
17	3629.802	9.5598829	3244	10.4401171	27549.71243	17	3895.486	9.5905617	3736
18	3632.512	9.5602071	3242	10.4397922	27529.15742	18	3898.837	9.5909351	3734
19	3635.222	9.5605310	3239	10.4394690	27508.63441	19	3902.189	9.5913081	3731
20	3637.932	9.5608546	3236	10.4391454	27488.14440	20	3905.541	9.5916812	3730
21	3640.641	9.5611779	3233	10.4388221	27467.68739	21	3908.894	9.5920539	3727
22	3643.350	9.5615010	3231	10.4384990	27447.26338	22	3912.248	9.5924263	3724
23	3646.059	9.5618237	3227	10.4381763	27426.87137	23	3915.602	9.5927985	3722
24	3648.768	9.5621462	3225	10.4378538	27406.51236	24	3918.957	9.5931705	3720
25	3651.476	9.5624685	3223	10.4375315	27386.18635	25	3922.313	9.5935423	3718
26	3654.184	9.5627904	3219	10.4372096	27365.89234	26	3925.670	9.5939138	3715
27	3656.892	9.5631121	3217	10.4368879	27345.63033	27	3929.028	9.5942851	3713
28	3659.599	9.5634335	3214	10.4365665	27325.40032	28	3932.386	9.5946561	3710
29	3662.306	9.5637546	3211	10.4362454	27305.20331	29	3935.745	9.5950269	3708
30	3665.013	9.5640754	3208	10.4359246	27285.03830	30	3939.105	9.5953975	3706
31	3667.719	9.5643960	3206	10.4356040	27264.90529	31	3942.466	9.5957679	3704
32	3670.425	9.5647163	3203	10.4352837	27244.80428	32	3945.827	9.5961381	3701
33	3673.131	9.5650363	3200	10.4349637	27224.73527	33	3949.189	9.5965079	3699
34	3675.836	9.5653561	3198	10.4346439	27204.69826	34	3952.552	9.5968776	3697
35	3678.541	9.5656756	3195	10.4343244	27184.69325	35	3955.916	9.5972470	3694
36	3681.246	9.5659948	3192	10.4340052	27164.71924	36	3959.280	9.5976162	3692
37	3683.950	9.5663137	3189	10.4336863	27144.77723	37	3962.645	9.5979852	3690
38	3686.654	9.5666324	3187	10.4333676	27124.86622	38	3966.011	9.5983540	3688
39	3689.358	9.5669508	3184	10.4330492	27104.98721	39	3969.378	9.5987225	3685
40	3692.062	9.5672689	3181	10.4327311	27085.13920	40	3972.746	9.5990908	3683
41	3694.765	9.5675868	3179	10.4324132	27065.32319	41	3976.114	9.5994588	3680
42	3697.468	9.5679044	3176	10.4320956	27045.53818	42	3979.483	9.5998267	3679
43	3700.170	9.5682217	3173	10.4317783	27025.78417	43	3982.853	9.6001943	3677
44	3702.872	9.5685387	3170	10.4314613	27006.06116	44	3986.224	9.6005617	3674
45	3705.574	9.5688555	3168	10.4311445	26986.37015	45	3989.596	9.6009289	3672
46	3708.276	9.5691721	3166	10.4308279	26966.70914	46	3992.968	9.6012958	3669
47	3710.977	9.5694883	3162	10.4305117	26947.07913	47	3996.341	9.6016625	3667
48	3713.678	9.5698043	3160	10.4301957	26927.48012	48	3999.715	9.6020290	3665
49	3716.379	9.5701200	3157	10.4298800	26907.91211	49	4003.089	9.6023953	3663
50	3719.080	9.5704355	3155	10.4295645	26888.37410	50	4006.465	9.6027613	3660
51	3721.780	9.5707506	3151	10.4292494	26868.86709	51	4009.841	9.6031271	3658
52	3724.480	9.5710656	3150	10.4289344	26849.39108	52	4013.218	9.6034927	3655
53	3727.179	9.5713802	3146	10.4286198	26829.94507	53	4016.596	9.6038581	3652
54	3729.878	9.5716946	3144	10.4283054	26810.53006	54	4019.975	9.6042233	3649
55	3732.577	9.5720087	3141	10.4279913	26791.14505	55	4023.354	9.6045882	3647
56	3735.275	9.5723226	3139	10.4276774	26771.79004	56	4026.734	9.6049529	3644
57	3737.973	9.5726362	3136	10.4273638	26752.46503	57	4030.115	9.6053174	3643
58	3740.671	9.5729495	3133	10.4270505	26733.17002	58	4033.497	9.6056817	3640
59	3743.369	9.5732626	3131	10.4267374	26713.90601	59	4036.879	9.6060457	3639
60	3746.066	9.5735754	3128	10.4264246	26694.67200	60	4040.252	9.6064096	3637
			Diff	L. Sec.	N. Sec. 68				Diff

		21	N. Sec.	L. Sec.	D		
0.4158226	26050.891	60	010711.450	10.0298483	485	9.9701517	9335.804
0.4154451	26028.258	59	110712.647	10.0298968	485	9.9701032	9334.761
0.4150679	26005.659	58	210713.844	10.0299453	485	9.9700547	9333.717
0.4146909	25983.095	57	310715.043	10.0299939	486	9.9700061	9332.673
0.4143141	25960.564	57	410716.244	10.0300426	487	9.9699574	9331.628
0.4139376	25938.068	55	510717.445	10.0300913	487	9.9699087	9330.582
0.4135614	25915.606	54	610718.647	10.0301400	487	9.9698600	9329.535
0.4131853	25893.177	53	710719.851	10.0301888	488	9.9698112	9328.487
0.4128091	25870.782	52	810721.056	10.0302376	488	9.9697624	9327.439
0.4124340	25848.421	51	910722.262	10.0302864	488	9.9697136	9326.390
0.4120587	25826.094	50	1010723.469	10.0303353	489	9.9696647	9325.340
0.4116833	25803.800	49	1110724.678	10.0303842	489	9.9696158	9324.289
0.4113088	25781.539	48	1210725.887	10.0304332	490	9.9695668	9323.238
0.4109343	25759.312	47	1310727.098	10.0304823	491	9.9695177	9322.186
0.4105599	25737.118	46	1410728.310	10.0305313	490	9.9694687	9321.133
0.4101858	25714.957	45	1510729.523	10.0305804	491	9.9694196	9320.079
0.4098119	25692.830	44	1610730.737	10.0306296	492	9.9693704	9319.024
0.4094383	25670.735	43	1710731.953	10.0306788	492	9.9693212	9317.968
0.4090649	25648.674	42	1810733.170	10.0307280	492	9.9692720	9316.912
0.4086918	25626.645	41	1910734.388	10.0307773	493	9.9692227	9315.855
0.4083188	25604.649	40	2010735.607	10.0308266	493	9.9691734	9314.797
0.4079461	25582.686	39	2110736.827	10.0308759	493	9.9691241	9313.738
0.4075737	25560.756	38	2210738.048	10.0309254	495	9.9690746	9312.679
0.4072015	25538.858	37	2310739.271	10.0309748	494	9.9690252	9311.619
0.4068295	25516.992	36	2410740.495	10.0310243	495	9.9689757	9310.558
0.4064577	25495.160	35	2510741.720	10.0310738	495	9.9689262	9309.496
0.4060862	25473.359	34	2610742.946	10.0311234	496	9.9688766	9308.433
0.4057149	25451.591	33	2710744.173	10.0311730	496	9.9688270	9307.370
0.4053439	25429.855	32	2810745.402	10.0312227	497	9.9687773	9306.306
0.4049731	25408.151	31	2910746.631	10.0312724	497	9.9687276	9305.241
0.4046025	25386.479	30	3010747.862	10.0313221	497	9.9686779	9304.175
0.4042321	25364.839	29	3110749.095	10.0313719	498	9.9686281	9303.109
0.4038620	25343.231	28	3210750.328	10.0314217	498	9.9685783	9302.042
0.4034921	25321.655	27	3310751.562	10.0314716	499	9.9685284	9300.974
0.4031224	25300.111	26	3410752.793	10.0315215	499	9.9684785	9299.905
0.4027530	25278.598	25	3510754.035	10.0315714	499	9.9684286	9298.835
0.4023838	25257.117	24	3610755.273	10.0316214	500	9.9683786	9297.765
0.4020148	25235.667	23	3710756.512	10.0316715	501	9.9683285	9296.694
0.4016460	25214.249	22	3810757.753	10.0317216	501	9.9682784	9295.622
0.4012775	25192.863	21	3910758.995	10.0317717	502	9.9682283	9294.549
0.4009092	25171.507	20	4010760.237	10.0318219	502	9.9681781	9293.475
0.4005412	25150.183	19	4110761.481	10.0318721	502	9.9681279	9292.401
0.4001733	25128.890	18	4210762.727	10.0319223	502	9.9680777	9291.326
0.3998057	25107.629	17	4310763.973	10.0319726	503	9.9680274	9290.250
0.3994383	25086.398	16	4410765.221	10.0320229	504	9.9679771	9289.173
0.3990711	25065.198	15	4510766.470	10.0320733	504	9.9679267	9288.095
0.3987042	25044.029	14	4610767.720	10.0321237	505	9.9678763	9287.017
0.3983375	25022.891	13	4710768.971	10.0321742	505	9.9678258	9285.938
0.3979710	25001.784	12	4810770.224	10.0322247	505	9.9677753	9284.858
0.3976037	24980.707	11	4910771.477	10.0322753	506	9.9677247	9283.777
0.3972387	24959.661	10	5010772.732	10.0323259	506	9.9676741	9282.696
0.3968729	24938.645	9	5110773.988	10.0323765	506	9.9676235	9281.614
0.3965073	24917.660	8	5210775.246	10.0324272	507	9.9675728	9280.531
0.3961419	24896.706	7	5310776.504	10.0324779	507	9.9675221	9279.447
0.3957767	24875.781	6	5410777.764	10.0325287	508	9.9674713	9278.362
0.3954118	24854.887	5	5510779.025	10.0325795	508	9.9674205	9277.277
0.3950471	24834.023	4	5610780.287	10.0326303	508	9.9673697	9276.191
0.3946826	24813.190	3	5710781.550	10.0326812	509	9.9673188	9275.104
0.3943183	24792.386	2	5810782.815	10.0327321	509	9.9672679	9274.016
0.3939543	24771.612	1	5910784.080	10.0327831	510	9.9672169	9272.928
0.3935904	24750.869	0	6010785.347	10.0328341	510	9.9671659	9271.839
L. Tan.	N. Tan.	68			D	L. Sin.	N. Sin.

22	N. Sin.	L. Sin.	Diff.			22	N. Tan.	L. Tan.	Diff.
0	3746.056	9.5735754		10.4264246	26694.67260	0	4040.262	9.6064096	
1	3748.763	9.5738880	3126	10.4261120	26675.46759	1	4043.646	9.6067732	3636
2	3751.459	9.5742003	3123	10.4257997	26656.29258	2	4047.031	9.6071366	3634
3	3754.156	9.5745123	3120	10.4254877	26637.14857	3	4050.417	9.6074997	3631
4	3756.852	9.5748240	3117	10.4251760	26618.03350	4	4053.804	9.6078627	3630
5	3759.547	9.5751356	3116	10.4248644	26598.94755	5	4057.191	9.6082254	3627
6	3762.243	9.5754468	3112	10.4245532	26579.89154	6	4060.579	9.6085880	3626
7	3764.938	9.5757578	3110	10.4242422	26560.86553	7	4063.968	9.6089503	3623
8	3767.632	9.5760685	3107	10.4239315	26541.86852	8	4067.358	9.6093124	3621
9	3770.327	9.5763790	3105	10.4236210	26522.90151	9	4070.748	9.6096742	3618
10	3773.021	9.5766892	3102	10.4233108	26503.96250	10	4074.139	9.6100359	3617
11	3775.714	9.5769991	3099	10.4230009	26485.05449	11	4077.531	9.6103973	3614
12	3778.408	9.5773088	3097	10.4226912	26466.17448	12	4080.924	9.6107586	3613
13	3781.101	9.5776183	3095	10.4223817	26447.32347	13	4084.318	9.6111196	3610
14	3783.794	9.5779275	3092	10.4220725	26428.50245	14	4087.713	9.6114804	3608
15	3786.486	9.5782364	3089	10.4217636	26409.70945	15	4091.108	9.6118409	3605
16	3789.178	9.5785450	3086	10.4214550	26390.94644	16	4094.504	9.6122013	3604
17	3791.870	9.5788535	3083	10.4211465	26372.21143	17	4097.901	9.6125615	3602
18	3794.562	9.5791616	3081	10.4208384	26353.50542	18	4101.299	9.6129214	3599
19	3797.253	9.5794695	3079	10.4205305	26334.82841	19	4104.697	9.6132812	3598
20	3799.944	9.5797772	3077	10.4202228	26316.18040	20	4108.097	9.6136407	3595
21	3802.634	9.5800845	3073	10.4199155	26297.56039	21	4111.497	9.6140000	3593
22	3805.324	9.5803917	3072	10.4196083	26278.96938	22	4114.898	9.6143591	3591
23	3808.014	9.5806986	3069	10.4193014	26260.40637	23	4118.300	9.6147180	3589
24	3810.704	9.5810052	3066	10.4189948	26241.87236	24	4121.703	9.6150766	3586
25	3813.393	9.5813116	3064	10.4186884	26223.36635	25	4125.106	9.6154351	3585
26	3816.082	9.5816177	3061	10.4183823	26204.88834	26	4128.510	9.6157934	3583
27	3818.770	9.5819236	3059	10.4180764	26186.43933	27	4131.915	9.6161514	3580
28	3821.459	9.5822292	3056	10.4177708	26168.01832	28	4135.321	9.6165093	3579
29	3824.147	9.5825345	3053	10.4174655	26149.62431	29	4138.728	9.6168666	3576
30	3826.834	9.5828397	3052	10.4171603	26131.25930	30	4142.136	9.6172243	3574
31	3829.522	9.5831445	3048	10.4168555	26112.92229	31	4145.544	9.6175815	3572
32	3832.209	9.5834491	3046	10.4165509	26094.61328	32	4148.953	9.6179381	3570
33	3834.895	9.5837535	3044	10.4162465	26076.33227	33	4152.363	9.6182953	3568
34	3837.582	9.5840576	3041	10.4159424	26058.07826	34	4155.774	9.6186519	3566
35	3840.268	9.5843615	3039	10.4156385	26039.85225	35	4159.186	9.6190088	3564
36	3842.953	9.5846651	3035	10.4153349	26021.65424	36	4162.599	9.6193645	3562
37	3845.639	9.5849685	3034	10.4150315	26003.48423	37	4166.012	9.6197205	3560
38	3848.324	9.5852716	3031	10.4147284	25985.34122	38	4169.426	9.6200762	3557
39	3851.008	9.5855745	3029	10.4144255	25967.22521	39	4172.841	9.6204318	3556
40	3853.693	9.5858771	3026	10.4141229	25949.13720	40	4176.257	9.6207872	3554
41	3856.377	9.5861795	3024	10.4138205	25931.07719	41	4179.674	9.6211423	3551
42	3859.060	9.5864816	3021	10.4135184	25913.04318	42	4183.091	9.6214973	3550
43	3861.744	9.5867835	3019	10.4132165	25895.03717	43	4186.509	9.6218520	3547
44	3864.427	9.5870851	3016	10.4129149	25877.05816	44	4189.928	9.6222066	3546
45	3867.110	9.5873865	3014	10.4126135	25859.10715	45	4193.348	9.6225609	3543
46	3869.792	9.5876876	3011	10.4123124	25841.18214	46	4196.769	9.6229150	3541
47	3872.474	9.5879885	3009	10.4120115	25823.28413	47	4200.191	9.6232690	3540
48	3875.156	9.5882892	3007	10.4117108	25805.41412	48	4203.613	9.6236227	3537
49	3877.837	9.5885896	3004	10.4114104	25787.57011	49	4207.036	9.6239763	3535
50	3880.518	9.5888897	3001	10.4111103	25769.75310	50	4210.460	9.6243296	3533
51	3883.199	9.5891897	3000	10.4108103	25751.96309	51	4213.885	9.6246827	3531
52	3885.880	9.5894894	2996	10.4105107	25734.19908	52	4217.311	9.6250356	3529
53	3888.560	9.5897888	2995	10.4102112	25716.46207	53	4220.738	9.6253884	3527
54	3891.239	9.5900880	2992	10.4099120	25698.75206	54	4224.166	9.6257409	3525
55	3893.919	9.5903869	2989	10.4096131	25681.06905	55	4227.594	9.6260932	3521
56	3896.598	9.5906856	2987	10.4093144	25663.41204	56	4231.023	9.6264454	3520
57	3899.277	9.5909841	2985	10.4090159	25645.78103	57	4234.453	9.6267973	3518
58	3901.955	9.5912823	2982	10.4087177	25628.17602	58	4237.884	9.6271491	3516
59	3904.633	9.5915803	2980	10.4084197	25610.59901	59	4241.316	9.6275006	3514
60	3907.311	9.5918780	2977	10.4081220	25593.04700	60	4244.749	9.6278519	3511
			Diff.	L. Sec.	N. Sec.				Diff.

			22. N. Sec.	L. Sec.	D.			
10.3935904	24750.869	60	10785.347	10.0328341	9.9671659	9271.839	60	
10.3932268	24730.155	59	10786.616	10.0328852	9.9671148	9270.749	59	
10.3928634	24709.470	58	10787.885	10.0329363	9.9670637	9269.658	58	
10.3925003	24688.816	57	10789.156	10.0329875	9.9670125	9268.566	57	
10.3921373	24668.191	56	10790.427	10.0330386	9.9669614	9267.473	56	
10.3917746	24647.586	55	10791.700	10.0330899	9.9669101	9266.380	55	
10.3914120	24627.030	54	10792.975	10.0331412	9.9668588	9265.286	54	
10.3910497	24606.494	53	10794.250	10.0331925	9.9668075	9264.191	53	
10.3906876	24585.987	52	10795.527	10.0332438	9.9667562	9263.096	52	
10.3903255	24565.509	51	10796.805	10.0332952	9.9667048	9262.000	51	
10.3899641	24545.061	50	10798.084	10.0333467	9.9666533	9260.903	50	
10.3896027	24524.642	49	10799.364	10.0333982	9.9666018	9259.805	49	
10.3892414	24504.252	48	10800.646	10.0334497	9.9665503	9258.706	48	
10.3888804	24483.891	47	10801.928	10.0335013	9.9664987	9257.606	47	
10.3885190	24463.559	46	10803.212	10.0335529	9.9664471	9256.506	46	
10.3881571	24443.256	45	10804.497	10.0336046	9.9663954	9255.405	45	
10.3877957	24422.982	44	10805.784	10.0336563	9.9663437	9254.303	44	
10.3874335	24402.736	43	10807.071	10.0337080	9.9662920	9253.200	43	
10.3870726	24382.519	42	10808.360	10.0337598	9.9662402	9252.097	42	
10.3867188	24362.331	41	10809.650	10.0338116	9.9661884	9250.993	41	
10.3863593	24342.171	40	10810.942	10.0338635	9.9661365	9249.888	40	
10.3860000	24322.041	39	10812.234	10.0339154	9.9660846	9248.782	39	
10.3856409	24301.938	38	10813.528	10.0339674	9.9660326	9247.675	38	
10.3852820	24281.864	37	10814.823	10.0340194	9.9659806	9246.566	37	
10.3849234	24261.819	36	10816.119	10.0340715	9.9659285	9245.460	36	
10.3845649	24241.801	35	10817.417	10.0341236	9.9658764	9244.351	35	
10.3842066	24221.812	34	10818.715	10.0341757	9.9658243	9243.241	34	
10.3838486	24201.851	33	10820.015	10.0342279	9.9657721	9242.131	33	
10.3834907	24181.918	32	10821.316	10.0342801	9.9657199	9241.020	32	
10.3831331	24162.013	31	10822.618	10.0343323	9.9656677	9239.908	31	
10.3827757	24142.136	30	10823.922	10.0343847	9.9656153	9238.795	30	
10.3824185	24122.286	29	10825.227	10.0344370	9.9655630	9237.681	29	
10.3820615	24102.465	28	10826.533	10.0344894	9.9655105	9236.567	28	
10.3817047	24082.672	27	10827.840	10.0345418	9.9654582	9235.452	27	
10.3813481	24062.906	26	10829.149	10.0345943	9.9654057	9234.336	26	
10.3809917	24043.168	25	10830.458	10.0346468	9.9653533	9233.219	25	
10.3806355	24023.457	24	10831.769	10.0346994	9.9653006	9232.102	24	
10.3802795	24003.774	23	10833.081	10.0347520	9.9652480	9230.984	23	
10.3799238	23984.118	22	10834.395	10.0348047	9.9651953	9229.865	22	
10.3795682	23964.490	21	10835.709	10.0348574	9.9651426	9228.745	21	
10.3792128	23944.889	20	10837.025	10.0349101	9.9650899	9227.624	20	
10.3788577	23925.316	19	10838.342	10.0349629	9.9650371	9226.503	19	
10.3785027	23905.769	18	10839.661	10.0350157	9.9649843	9225.381	18	
10.3781480	23886.250	17	10840.980	10.0350686	9.9649314	9224.258	17	
10.3777934	23866.758	16	10842.301	10.0351215	9.9648785	9223.134	16	
10.3774391	23847.293	15	10843.623	10.0351744	9.9648256	9222.009	15	
10.3770850	23827.855	14	10844.947	10.0352274	9.9647726	9220.884	14	
10.3767310	23808.444	13	10846.271	10.0352805	9.9647195	9219.758	13	
10.3763773	23789.066	12	10847.597	10.0353336	9.9646665	9218.631	12	
10.3760237	23769.703	11	10848.924	10.0353867	9.9646133	9217.503	11	
10.3756704	23750.372	10	10850.252	10.0354398	9.9645602	9216.375	10	
10.3753173	23731.068	9	10851.582	10.0354931	9.9645069	9215.246	9	
10.3749644	23711.791	8	10852.913	10.0355463	9.9644537	9214.115	8	
10.3746116	23692.540	7	10854.245	10.0355996	9.9644004	9212.985	7	
10.3742591	23673.316	6	10855.578	10.0356530	9.9643470	9211.854	6	
10.3739068	23654.118	5	10856.912	10.0357063	9.9642937	9210.722	5	
10.3735546	23634.946	4	10858.248	10.0357596	9.9642402	9209.589	4	
10.3732027	23615.801	3	10859.585	10.0358132	9.9641868	9208.455	3	
10.3728505	23596.683	2	10860.924	10.0358668	9.9641332	9207.320	2	
10.3724994	23577.590	1	10862.263	10.0359203	9.9640797	9206.185	1	
10.3721481	23558.524	0	10863.604	10.0359739	9.9640261	9205.049	0	
L. Tan.	N. Tan.	67			D.	L. Sin.	N. Sin.	67

23	N. Sin.	L. Sin.	Diff.			23	N. Tan.	L. Tan.	Diff.
0	3907.311	9.5918780		10.4081220	25593.047	60	4244.749	9.6278519	
1	3909.985	9.5921755	2975	10.4078245	25575.521	59	4248.182	9.6282031	3512
2	3912.666	9.5924728	2973	10.4075272	25558.022	58	4251.616	9.6285540	3509
3	3915.343	9.5927698	2970	10.4072302	25540.548	57	4255.051	9.6289048	3508
4	3918.015	9.5930666	2968	10.4069334	25523.101	56	4258.487	9.6292558	3505
5	3920.695	9.5933631	2965	10.4066369	25505.680	55	4261.924	9.6296067	3504
6	3923.371	9.5936594	2963	10.4063406	25488.284	54	4265.362	9.6299575	3501
7	3926.047	9.5939555	2961	10.4060445	25470.915	53	4268.800	9.6303083	3500
8	3928.722	9.5942513	2958	10.4057487	25453.571	52	4272.239	9.6306590	3498
9	3931.397	9.5945469	2953	10.4054531	25436.253	51	4275.679	9.6310095	3496
10	3934.071	9.5948422	2951	10.4051578	25418.961	50	4279.120	9.6313598	3493
11	3936.745	9.5951373	2949	10.4048627	25401.694	49	4282.562	9.6317097	3492
12	3939.419	9.5954322	2947	10.4045678	25384.453	48	4286.005	9.6320595	3490
13	3942.093	9.5957268	2944	10.4042732	25367.238	47	4289.449	9.6324091	3488
14	3944.766	9.5960212	2942	10.4039788	25350.048	46	4292.894	9.6327585	3486
15	3947.439	9.5963154	2940	10.4036846	25332.883	45	4296.339	9.6331078	3484
16	3950.111	9.5966093	2939	10.4033907	25315.744	44	4299.785	9.6334568	3483
17	3952.783	9.5969030	2937	10.4030970	25298.630	43	4303.232	9.6338055	3480
18	3955.455	9.5971965	2935	10.4028035	25281.541	42	4306.680	9.6341542	3478
19	3958.127	9.5974897	2932	10.4025103	25264.478	41	4310.129	9.6345030	3477
20	3960.798	9.5977827	2930	10.4022173	25247.440	40	4313.579	9.6348517	3475
21	3963.469	9.5980754	2927	10.4019240	25230.426	39	4317.030	9.6352005	3472
22	3966.139	9.5983679	2925	10.4016321	25213.438	38	4320.481	9.6355491	3471
23	3968.809	9.5986602	2923	10.4013398	25196.475	37	4323.933	9.6358979	3469
24	3971.475	9.5989523	2921	10.4010477	25179.537	36	4327.386	9.6362467	3467
25	3974.148	9.5992441	2918	10.4007559	25162.624	35	4330.840	9.6365952	3465
26	3976.817	9.5995357	2916	10.4004643	25145.735	34	4334.295	9.6369438	3463
27	3979.486	9.5998270	2913	10.4001730	25128.871	33	4337.751	9.6372924	3461
28	3982.155	9.6001181	2911	10.3998819	25112.032	32	4341.208	9.6376410	3460
29	3984.823	9.6004090	2909	10.3995910	25095.218	31	4344.666	9.6379895	3457
30	3987.491	9.6006997	2907	10.3993003	25078.428	30	4348.124	9.6383381	3455
31	3990.158	9.6009901	2904	10.3990099	25061.663	29	4351.583	9.6386867	3454
32	3992.825	9.6012803	2902	10.3987197	25044.923	28	4355.043	9.6390352	3452
33	3995.492	9.6015703	2900	10.3984297	25028.207	27	4358.504	9.6393837	3450
34	3998.158	9.6018600	2897	10.3981400	25011.515	26	4361.966	9.6397323	3448
35	4000.824	9.6021495	2895	10.3978505	24994.847	25	4365.429	9.6400809	3446
36	4003.490	9.6024388	2893	10.3975612	24978.204	24	4368.893	9.6404294	3445
37	4006.156	9.6027278	2890	10.3972722	24961.586	23	4372.358	9.6407779	3442
38	4008.821	9.6030166	2888	10.3969834	24944.991	22	4375.823	9.6411263	3441
39	4011.486	9.6033052	2886	10.3966948	24928.421	21	4379.289	9.6414747	3439
40	4014.150	9.6035936	2884	10.3964064	24911.874	20	4382.756	9.6418231	3437
41	4016.814	9.6038817	2881	10.3961183	24895.352	19	4386.224	9.6421715	3435
42	4019.478	9.6041696	2879	10.3958304	24878.854	18	4389.693	9.6425199	3434
43	4022.141	9.6044573	2877	10.3955427	24862.380	17	4393.163	9.6428683	3431
44	4024.804	9.6047448	2875	10.3952552	24845.929	16	4396.634	9.6432167	3430
45	4027.467	9.6050320	2872	10.3949680	24829.503	15	4400.106	9.6435651	3428
46	4030.129	9.6053190	2870	10.3946810	24813.100	14	4403.578	9.6439135	3426
47	4032.791	9.6056057	2867	10.3943943	24796.721	13	4407.051	9.6442619	3424
48	4035.453	9.6058923	2866	10.3941077	24780.366	12	4410.525	9.6446103	3422
49	4038.114	9.6061786	2863	10.3938214	24764.034	11	4414.000	9.6449587	3421
50	4040.775	9.6064647	2861	10.3935353	24747.726	10	4417.476	9.6453071	3419
51	4043.436	9.6067506	2859	10.3932494	24731.442	9	4420.953	9.6456555	3417
52	4046.096	9.6070362	2856	10.3929638	24715.181	8	4424.431	9.6460039	3415
53	4048.756	9.6073216	2854	10.3926784	24698.943	7	4427.910	9.6463523	3413
54	4051.416	9.6076068	2852	10.3923932	24682.729	6	4431.390	9.6467007	3412
55	4054.075	9.6078918	2850	10.3921082	24666.538	5	4434.871	9.6470491	3410
56	4056.733	9.6081765	2847	10.3918235	24650.371	4	4438.353	9.6473975	3407
57	4059.393	9.6084611	2846	10.3915389	24634.227	3	4441.833	9.6477459	3406
58	4062.051	9.6087454	2843	10.3912545	24618.106	2	4445.318	9.6480943	3404
59	4064.706	9.6090294	2840	10.3909706	24602.008	1	4448.803	9.6484427	3403
60	4067.361	9.6093133	2839	10.3906867	24585.933	0	4452.287	9.6487911	3400
			Diff	L. Sec.	N. Sec.				Diff

		23 N. Sec.	L. Sec.	D.		
10.3721481	23558.524	0	10863.604	10.0359739	9.9640261	9205.049
10.3717969	23539.483	1	10864.946	10.0360276	9.9639724	9203.912
10.3714460	23520.469	2	10866.289	10.0360813	9.9639187	9202.774
10.3710952	23501.481	3	10867.634	10.0361350	9.9638650	9201.635
10.3707447	23482.419	4	10868.979	10.0361888	9.9638112	9200.496
10.3703943	23463.582	5	10870.326	10.0362426	9.9637574	9199.356
10.3700442	23444.672	6	10871.675	10.0362964	9.9637036	9198.215
10.3696942	23425.787	7	10873.024	10.0363504	9.9636496	9197.073
10.3693444	23406.928	8	10874.375	10.0364043	9.9635957	9195.931
10.3689948	23388.095	9	10875.727	10.0364583	9.9635417	9194.788
10.3686455	23369.287	10	10877.080	10.0365123	9.9634877	9193.644
10.3682963	23350.505	11	10878.435	10.0365664	9.9634336	9192.499
10.3679473	23331.748	12	10879.791	10.0366205	9.9633795	9191.353
10.3675985	23313.017	13	10881.148	10.0366747	9.9633253	9190.207
10.3672499	23294.311	14	10882.506	10.0367288	9.9632711	9189.060
10.3669015	23275.630	15	10883.866	10.0367829	9.9632168	9187.912
10.3665532	23256.975	16	10885.227	10.0368370	9.9631625	9186.763
10.3662052	23238.345	17	10886.589	10.0368911	9.9631082	9185.614
10.3658574	23219.740	18	10887.952	10.0369452	9.9630538	9184.464
10.3655097	23201.160	19	10889.317	10.0370006	9.9629994	9183.313
10.3651622	23182.606	20	10890.683	10.0370551	9.9629449	9182.161
10.3648150	23164.076	21	10892.050	10.0371096	9.9628904	9181.008
10.3644679	23145.571	22	10893.418	10.0371642	9.9628358	9179.855
10.3641210	23127.091	23	10894.788	10.0372188	9.9627812	9178.701
10.3637743	23108.636	24	10896.159	10.0372734	9.9627266	9177.546
10.3634278	23090.206	25	10897.531	10.0373281	9.9626719	9176.390
10.3630815	23071.801	26	10898.904	10.0373828	9.9626172	9175.234
10.3627354	23053.420	27	10900.279	10.0374376	9.9625624	9174.077
10.3623894	23035.064	28	10901.655	10.0374924	9.9625076	9172.919
10.3620437	23016.732	29	10903.032	10.0375473	9.9624527	9171.760
10.3616981	22998.425	30	10904.411	10.0376022	9.9623978	9170.601
10.3613527	22980.143	31	10905.791	10.0376572	9.9623428	9169.441
10.3610075	22961.885	32	10907.172	10.0377122	9.9622878	9168.280
10.3606625	22943.651	33	10908.554	10.0377672	9.9622328	9167.118
10.3603177	22925.442	34	10909.938	10.0378223	9.9621777	9165.955
10.3599731	22907.257	35	10911.323	10.0378774	9.9621226	9164.791
10.3596286	22889.096	36	10912.709	10.0379325	9.9620674	9163.627
10.3592844	22870.959	37	10914.097	10.0379878	9.9620122	9162.462
10.3589403	22852.846	38	10915.486	10.0380431	9.9619569	9161.296
10.3585964	22834.758	39	10916.876	10.0380984	9.9619016	9160.130
10.3582527	22816.693	40	10918.267	10.0381537	9.9618463	9158.963
10.3579092	22798.653	41	10919.659	10.0382091	9.9617909	9157.795
10.3575658	22780.636	42	10921.053	10.0382645	9.9617355	9156.626
10.3572227	22762.643	43	10922.448	10.0383200	9.9616800	9155.456
10.3568797	22744.674	44	10923.845	10.0383755	9.9616245	9154.286
10.3565369	22726.729	45	10925.243	10.0384311	9.9615689	9153.115
10.3561943	22708.807	46	10926.642	10.0384867	9.9615133	9151.943
10.3558519	22690.909	47	10928.042	10.0385424	9.9614578	9150.770
10.3555097	22673.035	48	10929.444	10.0385980	9.9614020	9149.596
10.3551676	22655.184	49	10930.847	10.0386538	9.9613463	9148.422
10.3548257	22637.357	50	10932.251	10.0387096	9.9612904	9147.247
10.3544840	22619.553	51	10933.656	10.0387654	9.9612346	9146.071
10.3541425	22601.773	52	10935.063	10.0388213	9.9611787	9144.895
10.3538012	22584.016	53	10936.471	10.0388772	9.9611228	9143.718
10.3534600	22566.283	54	10937.880	10.0389332	9.9610668	9142.540
10.3531190	22548.572	55	10939.291	10.0389892	9.9610108	9141.361
10.3527783	22530.885	56	10940.703	10.0390453	9.9609548	9140.181
10.3524376	22513.221	57	10942.116	10.0391013	9.9608987	9139.000
10.3520972	22495.580	58	10943.530	10.0391574	9.9608426	9137.819
10.3517569	22477.962	59	10944.946	10.0392136	9.9607864	9136.637
10.3514169	22460.368	60	10946.363	10.0392698	9.9607302	9135.454
L. Tan. N. Tan. 66				D. L. Sin. N. Sin. 66		

24	N. Sin.	L. Sin.	Diff.			24	N. Tan.	L. Tan.	Diff.
0	4067.366	9.6093133		10.3906867	24585.933	0	4472.287	9.6489831	
1	4070.023	9.6095969	2836	10.3904031	24569.882	1	4455.773	9.6489230	3399
2	4072.680	9.6098803	2834	10.3901197	24553.853	2	4459.260	9.6489228	3398
3	4075.337	9.6101635	2832	10.3898365	24537.848	3	4462.748	9.6489223	3395
4	4077.993	9.6104465	2830	10.3895535	24521.865	4	4466.237	9.6489217	3394
5	4080.649	9.6107293	2828	10.3892707	24505.905	5	4469.727	9.6489209	3392
6	4083.305	9.6110118	2825	10.3889882	24489.968	6	4473.217	9.6500199	3390
7	4085.960	9.6112941	2823	10.3887059	24474.054	7	4476.708	9.6509988	3388
8	4088.615	9.6115762	2821	10.3884238	24458.163	8	4480.200	9.6511971	3387
9	4091.269	9.6118580	2818	10.3881420	24442.294	9	4483.693	9.6516359	3385
10	4093.923	9.6121397	2817	10.3878603	24426.448	10	4487.187	9.6519743	3381
11	4096.577	9.6124211	2814	10.3875789	24410.624	11	4490.682	9.6523123	3381
12	4099.230	9.6127023	2812	10.3872977	24394.823	12	4494.178	9.6526505	3380
13	4101.883	9.6129833	2810	10.3870167	24379.045	13	4497.675	9.6529888	3378
14	4104.535	9.6132641	2808	10.3867359	24363.289	14	4501.173	9.6533271	3376
15	4107.189	9.6135446	2805	10.3864554	24347.555	15	4504.672	9.6536653	3374
16	4109.841	9.6138250	2804	10.3861750	24331.844	16	4508.172	9.6540036	3371
17	4112.493	9.6141051	2801	10.3858949	24316.155	17	4511.673	9.6543417	3371
18	4115.144	9.6143850	2799	10.3856150	24300.489	18	4515.174	9.6546797	3369
19	4117.795	9.6146647	2797	10.3853353	24284.844	19	4518.675	9.6550171	3368
20	4120.446	9.6149441	2794	10.3850559	24269.222	20	4522.179	9.6553547	3365
21	4123.096	9.6152234	2793	10.3847766	24253.622	21	4525.683	9.6556924	3364
22	4125.746	9.6155024	2790	10.3844976	24238.044	22	4529.183	9.6560300	3363
23	4128.395	9.6157812	2788	10.3842188	24222.488	23	4532.694	9.6563676	3360
24	4131.044	9.6160599	2787	10.3839401	24206.954	24	4536.201	9.6567052	3359
25	4133.693	9.6163382	2783	10.3836618	24191.442	25	4539.709	9.6570428	3357
26	4136.342	9.6166164	2782	10.3833836	24175.952	26	4543.218	9.6573803	3356
27	4138.990	9.6168944	2780	10.3831056	24160.484	27	4546.728	9.6577178	3353
28	4141.638	9.6171721	2777	10.3828279	24145.038	28	4550.239	9.6580544	3352
29	4144.285	9.6174496	2775	10.3825504	24129.613	29	4553.751	9.6583919	3351
30	4146.932	9.6177270	2774	10.3822730	24114.210	30	4557.264	9.6587291	3349
31	4149.579	9.6180041	2771	10.3819959	24098.829	31	4560.777	9.6590668	3346
32	4152.226	9.6182809	2768	10.3817191	24083.469	32	4564.291	9.6594043	3346
33	4154.872	9.6185576	2767	10.3814424	24068.132	33	4567.806	9.6597417	3343
34	4157.518	9.6188341	2765	10.3811659	24052.815	34	4571.322	9.6600791	3342
35	4160.163	9.6191103	2762	10.3808897	24037.520	35	4574.839	9.6604165	3340
36	4162.808	9.6193864	2761	10.3806136	24022.247	36	4578.357	9.6607539	3339
37	4165.453	9.6196622	2758	10.3803378	24006.995	37	4581.876	9.6610914	3337
38	4168.097	9.6199378	2756	10.3800622	23991.764	38	4585.396	9.6614289	3335
39	4170.741	9.6202132	2752	10.3797868	23976.555	39	4588.917	9.6617663	3334
40	4173.385	9.6204884	2750	10.3795116	23961.367	40	4592.439	9.6621037	3331
41	4176.028	9.6207634	2748	10.3792366	23946.201	41	4595.962	9.6624411	3331
42	4178.671	9.6210382	2748	10.3789618	23931.055	42	4599.486	9.6627785	3328
43	4181.313	9.6213127	2745	10.3786873	23915.931	43	4603.011	9.6631159	3327
44	4183.955	9.6215871	2744	10.3784129	23900.828	44	4606.537	9.6634533	3325
45	4186.597	9.6218612	2741	10.3781388	23885.746	45	4610.064	9.6637907	3322
46	4189.239	9.6221351	2739	10.3778649	23870.685	46	4613.591	9.6641281	3320
47	4191.880	9.6224088	2737	10.3775912	23855.645	47	4617.119	9.6644655	3319
48	4194.521	9.6226824	2736	10.3773176	23840.625	48	4620.648	9.6648029	3316
49	4197.161	9.6229557	2733	10.3770443	23825.627	49	4624.178	9.6651403	3316
50	4199.801	9.6232287	2730	10.3767713	23810.650	50	4627.709	9.6654777	3313
51	4202.441	9.6235016	2727	10.3764984	23795.693	51	4631.242	9.6658151	3313
52	4205.080	9.6237743	2725	10.3762257	23780.758	52	4634.776	9.6661525	3310
53	4207.719	9.6240468	2722	10.3759531	23765.843	53	4638.311	9.6664899	3309
54	4210.358	9.6243190	2722	10.3756810	23750.949	54	4641.846	9.6668273	3307
55	4212.996	9.6245911	2721	10.3754089	23736.075	55	4645.382	9.6671647	3305
56	4215.634	9.6248629	2718	10.3751371	23721.222	56	4648.919	9.6675021	3304
57	4218.272	9.6251346	2717	10.3748654	23706.390	57	4652.457	9.6678395	3303
58	4220.909	9.6254062	2714	10.3745940	23691.578	58	4655.996	9.6681769	3300
59	4223.546	9.6256777	2712	10.3743228	23676.787	59	4659.536	9.6685143	3299
60	4226.183	9.6259483	2711	10.3740517	23662.016	60	4663.077	9.6688517	3297
			Diff.	L. Sec.	N. Sec. 65				Diff.

			N. Sec.	L. Sec.	D.		
10.3514169	22460.368	60	0 10946.363	10.0392698	9.9607302	9135.454	08
10.3510770	22442.796	55	1 10947.781	10.0393261	9.9606739	9134.271	59
10.3507372	22425.247	58	2 10949.201	10.0393824	9.9606176	9133.007	58
10.3503977	22407.721	57	3 10950.622	10.0394388	9.9605612	9131.902	57
10.3500583	22390.218	56	4 10952.044	10.0394952	9.9605048	9130.716	56
10.3497191	22372.738	55	5 10953.467	10.0395516	9.9604484	9129.529	55
10.3493801	22355.280	54	6 10954.892	10.0396081	9.9603919	9128.342	54
10.3490413	22337.845	53	7 10956.318	10.0396646	9.9603354	9127.154	53
10.3487020	22320.433	52	8 10957.746	10.0397212	9.9602788	9125.965	52
10.3483641	22303.043	51	9 10959.174	10.0397778	9.9602222	9124.775	51
10.3480258	22285.676	50	10 10960.604	10.0398345	9.9601655	9123.584	50
10.3476877	22268.331	49	11 10962.036	10.0398911	9.9601088	9122.393	49
10.3473497	22251.009	48	12 10963.468	10.0399480	9.9600520	9121.201	48
10.3470119	22233.705	47	13 10964.902	10.0400048	9.9599952	9120.008	47
10.3466743	22216.432	46	14 10966.337	10.0400616	9.9599384	9118.814	46
10.3463369	22199.177	45	15 10967.774	10.0401185	9.9598815	9117.620	45
10.3459996	22181.944	44	16 10969.212	10.0401754	9.9598246	9116.425	44
10.3456625	22164.733	43	17 10970.651	10.0402324	9.9597676	9115.229	43
10.3453256	22147.545	42	18 10972.091	10.0402894	9.9597106	9114.032	42
10.3449888	22130.379	41	19 10973.533	10.0403465	9.9596535	9112.835	41
10.3446523	22113.234	40	20 10974.976	10.0404036	9.9595964	9111.637	40
10.3443159	22096.112	39	21 10976.420	10.0404607	9.9595393	9110.438	39
10.3439796	22079.012	38	22 10977.866	10.0405179	9.9594821	9109.238	38
10.3436436	22061.934	37	23 10979.313	10.0405752	9.9594248	9108.038	37
10.3433077	22044.878	36	24 10980.761	10.0406325	9.9593675	9106.837	36
10.3429720	22027.843	35	25 10982.211	10.0406898	9.9593102	9105.635	35
10.3426364	22010.831	34	26 10983.662	10.0407472	9.9592528	9104.432	34
10.3423011	21993.840	33	27 10985.114	10.0408046	9.9591954	9103.228	33
10.3419659	21976.871	32	28 10986.568	10.0408622	9.9591380	9102.024	32
10.3416308	21959.923	31	29 10988.023	10.0409195	9.9590805	9100.819	31
10.3412959	21942.997	30	30 10989.479	10.0409771	9.9590229	9099.613	30
10.3409613	21926.093	29	31 10990.936	10.0410347	9.9589653	9098.406	29
10.3406267	21909.210	28	32 10992.395	10.0410923	9.9589077	9097.198	28
10.3402924	21892.349	27	33 10993.855	10.0411500	9.9588500	9095.990	27
10.3399582	21875.510	26	34 10995.317	10.0412077	9.9587923	9094.781	26
10.3396242	21858.691	25	35 10996.779	10.0412655	9.9587345	9093.571	25
10.3392903	21841.894	24	36 10998.243	10.0413233	9.9586767	9092.361	24
10.3389566	21825.119	23	37 10999.709	10.0413812	9.9586188	9091.150	23
10.3386231	21808.364	22	38 11001.176	10.0414391	9.9585609	9089.938	22
10.3382897	21791.631	21	39 11002.644	10.0414970	9.9585030	9088.725	21
10.3379566	21774.920	20	40 11004.113	10.0415550	9.9584450	9087.511	20
10.3376235	21758.229	19	41 11005.584	10.0416131	9.9583869	9086.297	19
10.3372907	21741.559	18	42 11007.056	10.0416712	9.9583288	9085.082	18
10.3369580	21724.911	17	43 11008.529	10.0417293	9.9582707	9083.866	17
10.3366255	21708.283	16	44 11010.004	10.0417875	9.9582125	9082.649	16
10.3362931	21691.677	15	45 11011.480	10.0418457	9.9581543	9081.432	15
10.3359609	21675.091	14	46 11012.957	10.0419039	9.9580961	9080.214	14
10.3356289	21658.527	13	47 11014.436	10.0419622	9.9580378	9078.995	13
10.3352970	21641.983	12	48 11015.916	10.0420206	9.9579794	9077.775	12
10.3349654	21625.460	11	49 11017.397	10.0420790	9.9579210	9076.554	11
10.3346338	21608.958	10	50 11018.879	10.0421374	9.9578626	9075.333	10
10.3343025	21592.476	9	51 11020.363	10.0421959	9.9578041	9074.111	9
10.3339712	21576.015	8	52 11021.849	10.0422544	9.9577456	9072.888	8
10.3336402	21559.575	7	53 11023.335	10.0423130	9.9576870	9071.664	7
10.3333093	21543.156	6	54 11024.823	10.0423716	9.9576284	9070.440	6
10.3329786	21526.757	5	55 11026.313	10.0424303	9.9575697	9069.215	5
10.3326481	21510.378	4	56 11027.803	10.0424890	9.9575110	9067.982	4
10.3323177	21494.020	3	57 11029.295	10.0425478	9.9574522	9066.752	3
10.3319874	21477.683	2	58 11030.789	10.0426066	9.9573934	9065.525	2
10.3316574	21461.366	1	59 11032.283	10.0426654	9.9573346	9064.307	1
10.3313275	21445.069	0	60 11033.779	10.0427243	9.9572757	9063.078	0

L. Tang.

N. Tan. 65

D. L. Sin. N. Sin. 65

25	N. Sin.	L. Sin.	Diff.	25	N. Tan.	L. Tan.	Diff.
24226.183	9.6259483		10.3740517	23662.016	60	9.663.077	9.6686725
14228.819	9.6262191	2708	10.3737809	23647.265	59	14666.619	9.6690023
24231.455	9.626489	2706	10.3735103	23632.535	58	24670.162	9.6693319
34234.090	9.6267601	2704	10.3732397	23617.826	57	34673.700	9.6696613
44236.725	9.6270303	2702	10.3729697	23603.136	56	44677.251	9.6699906
54239.360	9.6273005	2700	10.3726997	23588.467	55	54680.787	9.6703197
64241.994	9.6275701	2698	10.3724295	23573.818	54	64684.343	9.6706486
74244.628	9.6278397	2696	10.3721603	23559.189	53	74687.890	9.6709774
84247.262	9.6281090	2693	10.3718910	23544.581	52	84691.438	9.6713060
94249.895	9.6283782	2692	10.3716218	23529.992	51	94694.988	9.6716345
104252.528	9.6286472	2690	10.3713528	23515.424	50	104698.539	9.6719628
114255.161	9.6289160	2688	10.3710840	23500.875	49	114702.090	9.6722910
124257.793	9.6291845	2685	10.3708155	23486.347	48	124705.643	9.6726190
134260.425	9.6294529	2684	10.3705471	23471.838	47	134709.196	9.6729468
144263.056	9.6297211	2682	10.3702785	23457.349	46	144712.751	9.6732745
154265.687	9.6299890	2680	10.3700110	23442.880	45	154716.306	9.6736020
164268.318	9.6302568	2678	10.3697432	23428.431	44	164719.863	9.6739294
174270.949	9.6305243	2675	10.3694757	23414.002	43	174723.420	9.6742566
184273.577	9.6307917	2674	10.3692083	23399.593	42	184726.978	9.6745836
194276.201	9.6310589	2672	10.3689411	23385.203	41	194730.538	9.6749105
204278.833	9.6313257	2669	10.3686742	23370.833	40	204734.098	9.6752372
214281.465	9.6315926	2668	10.3684074	23356.482	39	214737.659	9.6755638
224284.095	9.6318591	2665	10.3681409	23342.152	38	224741.222	9.6758903
234286.723	9.6321255	2664	10.3678745	23327.840	37	234744.785	9.6762165
244289.351	9.6323916	2661	10.3676084	23313.548	36	244748.349	9.6765426
254291.979	9.6326576	2660	10.3673424	23299.276	35	254751.914	9.6768686
264294.606	9.6329233	2657	10.3670767	23285.023	34	264755.481	9.6771944
274297.232	9.6331889	2656	10.3668111	23270.790	33	274759.048	9.6775201
284299.859	9.6334544	2653	10.3665458	23256.575	32	284762.616	9.6778455
294302.485	9.6337194	2652	10.3662806	23242.381	31	294766.185	9.6781709
304305.111	9.6339844	2650	10.3660156	23228.203	30	304769.755	9.6784961
314307.736	9.6342491	2647	10.3657509	23214.045	29	314773.326	9.6788211
324310.361	9.6345137	2646	10.3654862	23199.911	28	324776.899	9.6791466
334312.986	9.6347780	2643	10.3652220	23185.799	27	334780.472	9.6794708
344315.610	9.6350422	2641	10.3649578	23171.695	26	344784.046	9.6797953
354318.234	9.6353062	2640	10.3646938	23157.615	25	354787.621	9.6801198
364320.857	9.6355699	2637	10.3644301	23143.554	24	364791.197	9.6804440
374323.480	9.6358335	2636	10.3641665	23129.512	23	374794.774	9.6807688
384326.103	9.6360969	2634	10.3639031	23115.490	22	384798.352	9.6810929
394328.726	9.6363601	2633	10.3636399	23101.486	21	394801.932	9.6814160
404331.348	9.6366231	2630	10.3633769	23087.501	20	404805.512	9.6817396
414333.970	9.6368859	2628	10.3631141	23073.535	19	414809.093	9.6820632
424336.591	9.6371484	2625	10.3628516	23059.588	18	424812.675	9.6823865
434339.212	9.6374108	2624	10.3625892	23045.660	17	434816.258	9.6827098
444341.833	9.6376731	2620	10.3623269	23031.751	16	444819.842	9.6830328
454344.453	9.6379351	2620	10.3620649	23017.860	15	454823.427	9.6833557
464347.073	9.6381966	2618	10.3618031	23003.986	14	464827.014	9.6836785
474349.692	9.6384585	2616	10.3615415	22990.134	13	474830.601	9.6840011
484352.311	9.6387199	2614	10.3612801	22976.299	12	484834.189	9.6843236
494354.931	9.6389812	2613	10.3610188	22962.483	11	494837.778	9.6846459
504357.548	9.6392422	2610	10.3607578	22948.685	10	504841.368	9.6849681
514360.166	9.6395030	2608	10.3604970	22934.906	9	514844.959	9.6852901
524362.783	9.6397637	2607	10.3602363	22921.145	8	524848.552	9.6856120
534365.401	9.6400241	2604	10.3599759	22907.403	7	534852.145	9.6859338
544368.018	9.6402844	2603	10.3597156	22893.679	6	544855.739	9.6862555
554370.634	9.6405445	2601	10.3594555	22879.974	5	554859.334	9.6865768
564373.250	9.6408044	2599	10.3591956	22866.286	4	564862.931	9.6868981
574375.866	9.6410640	2596	10.3589360	22852.618	3	574866.528	9.6872192
584378.482	9.6413233	2595	10.3586765	22838.967	2	584870.126	9.6875402
594381.097	9.6415828	2593	10.3584172	22825.334	1	594873.721	9.6878611
604383.712	9.6418420	2592	10.3581580	22811.720	0	604877.321	9.6881818
		Diff.	L. Sec.		N. Sec.		Diff.

		2 ^d	N. Sec.	L. Sec.	D		
10.3313275	21445.069	60	0	11033.779	10.0427243	589	9.9572757
10.3309977	21428.793	59	1	11035.277	10.0427832	590	9.9572168
10.3306681	21412.537	58	2	11036.775	10.0428422	590	9.9571578
10.3303387	21396.301	57	3	11038.275	10.0429012	590	9.9570988
10.3300094	21380.085	56	4	11039.777	10.0429603	591	9.9570397
10.3296802	21363.889	55	5	11041.279	10.0430194	591	9.9569806
10.3293514	21347.714	54	6	11042.783	10.0430785	591	9.9569215
10.3290226	21331.559	53	7	11044.285	10.0431377	592	9.9568623
10.3286945	21315.423	52	8	11045.795	10.0431970	593	9.9568030
10.3283655	21299.308	51	9	11047.303	10.0432563	593	9.9567437
10.3280372	21283.213	50	10	11048.813	10.0433156	593	9.9566844
10.3277090	21267.137	49	11	11050.324	10.0433750	594	9.9566250
10.3273810	21251.082	48	12	11051.836	10.0434344	594	9.9565656
10.3270532	21235.046	47	13	11053.349	10.0434939	595	9.9565061
10.3267255	21219.030	46	14	11054.864	10.0435534	595	9.9564466
10.3263980	21203.034	45	15	11056.380	10.0436130	596	9.9563870
10.3260706	21187.057	44	16	11057.898	10.0436726	596	9.9563274
10.3257434	21171.101	43	17	11059.417	10.0437322	596	9.9562678
10.3254164	21155.164	42	18	11060.937	10.0437919	597	9.9562081
10.3250895	21139.246	41	19	11062.458	10.0438517	598	9.9561483
10.3247628	21123.340	40	20	11063.981	10.0439114	597	9.9560886
10.3244362	21107.470	39	21	11065.506	10.0439713	599	9.9560287
10.3241097	21091.611	38	22	11067.031	10.0440311	598	9.9559689
10.3237835	21075.771	37	23	11068.558	10.0440911	600	9.9559089
10.3234574	21059.951	36	24	11070.087	10.0441510	599	9.9558490
10.3231314	21044.150	35	25	11071.616	10.0442110	600	9.9557890
10.3228056	21028.369	34	26	11073.147	10.0442711	601	9.9557289
10.3224799	21012.607	33	27	11074.680	10.0443312	601	9.9556688
10.3221544	20996.864	32	28	11076.214	10.0443913	601	9.9556087
10.3218291	20981.140	31	29	11077.749	10.0444515	602	9.9555485
10.3215039	20965.436	30	30	11079.285	10.0445118	603	9.9554882
10.3211789	20949.751	29	31	11080.823	10.0445720	602	9.9554280
10.3208540	20934.084	28	32	11082.363	10.0446324	604	9.9553676
10.3205292	20918.437	27	33	11083.903	10.0446927	603	9.9553073
10.3202047	20902.809	26	34	11085.445	10.0447531	604	9.9552469
10.3198802	20887.200	25	35	11086.989	10.0448136	605	9.9551864
10.3195560	20871.610	24	36	11088.533	10.0448741	605	9.9551259
10.3192318	20856.039	23	37	11090.079	10.0449347	606	9.9550653
10.3189079	20840.486	22	38	11091.627	10.0449953	606	9.9550047
10.3185840	20824.953	21	39	11093.176	10.0450559	607	9.9549441
10.3182604	20809.438	20	40	11094.726	10.0451166	607	9.9548834
10.3179368	20793.942	19	41	11096.277	10.0451773	608	9.9548227
10.3176135	20778.465	18	42	11097.830	10.0452381	608	9.9547619
10.3172902	20763.007	17	43	11099.385	10.0452989	609	9.9547011
10.3169672	20747.567	16	44	11100.941	10.0453598	609	9.9546402
10.3166443	20732.146	15	45	11102.498	10.0454207	609	9.9545793
10.3163215	20716.743	14	46	11104.056	10.0454816	610	9.9545184
10.3159989	20701.359	13	47	11105.616	10.0455426	611	9.9544574
10.3156764	20685.993	12	48	11107.177	10.0456037	611	9.9543963
10.3153541	20670.646	11	49	11108.740	10.0456648	611	9.9543352
10.3150319	20655.318	10	50	11110.304	10.0457259	612	9.9542741
10.3147099	20640.008	9	51	11111.869	10.0457871	612	9.9542129
10.3143880	20624.716	8	52	11113.436	10.0458483	613	9.9541517
10.3140662	20609.442	7	53	11115.004	10.0459096	613	9.9540904
10.3137447	20594.187	6	54	11116.573	10.0459709	614	9.9540291
10.3134231	20578.950	5	55	11118.144	10.0460323	614	9.9539677
10.3131019	20563.732	4	56	11119.716	10.0460937	615	9.9539063
10.3127808	20548.531	3	57	11121.290	10.0461552	615	9.9538448
10.3124598	20533.349	2	58	11122.865	10.0462167	615	9.9537833
10.3121389	20518.184	1	59	11124.442	10.0462782	616	9.9537218
10.3118182	20503.038	0	60	11126.019	10.0463398	616	9.9536602

L. Tan. N. Tan. 64

D L. Sin. N. Sin. 6

26	N. Sin.	L. Sin.	Diff.			26	N. Tan.	L. Tan.	Diff.
0	4383.712	9.6418420		10.3581580	22811.7206	0	4877.326	9.6881818	
1	4386.326	9.6421009	2589	10.3578991	22798.1245	1	4880.927	9.6885073	3205
2	4388.940	9.6423596	2587	10.3576404	22784.5465	2	4884.530	9.6888227	3204
3	4391.553	9.6426182	2586	10.3573818	22770.9685	3	4888.133	9.6891430	3203
4	4394.166	9.6428765	2583	10.3571235	22757.4456	4	4891.737	9.6894631	3201
5	4396.779	9.6431347	2582	10.3568653	22743.9215	5	4895.343	9.6897831	3200
6	4399.392	9.6433926	2579	10.3566074	22730.4154	6	4898.949	9.6901030	3199
7	4402.004	9.6436504	2578	10.3563496	22716.9275	7	4902.557	9.6904228	3196
8	4404.616	9.6439080	2576	10.3560920	22703.4575	8	4906.166	9.6907425	3196
9	4407.227	9.6441654	2574	10.3558346	22689.9055	9	4909.775	9.6910616	3194
10	4409.838	9.6444226	2572	10.3555774	22676.3715	10	4913.386	9.6913809	3193
11	4412.448	9.6446796	2570	10.3553204	22662.8554	11	4916.997	9.6917003	3191
12	4415.058	9.6449365	2569	10.3550635	22649.7564	12	4920.610	9.6920189	3189
13	4417.668	9.6451931	2566	10.3548069	22636.3754	13	4924.224	9.6923378	3189
14	4420.278	9.6454496	2562	10.3545504	22623.0124	14	4927.838	9.6926565	3187
15	4422.887	9.6457058	2561	10.3542942	22609.6674	15	4931.454	9.6929750	3185
16	4425.496	9.6459619	2559	10.3540381	22596.3394	16	4935.071	9.6932934	3184
17	4428.104	9.6462178	2557	10.3537822	22583.0294	17	4938.689	9.6936117	3183
18	4430.712	9.6464735	2557	10.3535265	22569.7364	18	4942.308	9.6939298	3181
19	4433.320	9.6467290	2555	10.3532710	22556.4614	19	4945.928	9.6942478	3180
20	4435.927	9.6469844	2554	10.3530156	22543.2044	20	4949.549	9.6945656	3178
21	4438.534	9.6472395	2550	10.3527605	22529.9543	21	4953.171	9.6948833	3177
22	4441.140	9.6474945	2547	10.3525055	22516.7413	22	4956.794	9.6952009	3176
23	4443.746	9.6477492	2546	10.3522508	22503.5363	23	4960.418	9.6955183	3174
24	4446.352	9.6480038	2544	10.3519962	22490.3483	24	4964.043	9.6958355	3172
25	4448.957	9.6482582	2544	10.3517418	22477.1783	25	4967.669	9.6961527	3172
26	4451.562	9.6485124	2541	10.3514876	22464.0243	26	4971.297	9.6964697	3170
27	4454.167	9.6487665	2538	10.3512335	22450.8893	27	4974.924	9.6967865	3168
28	4456.771	9.6490203	2537	10.3509797	22437.7703	28	4978.554	9.6971032	3167
29	4459.375	9.6492740	2534	10.3507260	22424.6693	29	4982.185	9.6974198	3166
30	4461.978	9.6495274	2533	10.3504726	22411.5843	30	4985.816	9.6977365	3165
31	4464.581	9.6497807	2531	10.3502193	22398.5172	31	4989.445	9.6980526	3163
32	4467.184	9.6500338	2530	10.3499662	22385.4672	32	4993.082	9.6983687	3161
33	4469.786	9.6502868	2527	10.3497132	22372.4352	33	4996.717	9.6986847	3160
34	4472.388	9.6505395	2525	10.3494605	22359.4192	34	5000.352	9.6990006	3159
35	4474.990	9.6507920	2524	10.3492080	22346.4202	35	5003.989	9.6993164	3158
36	4477.591	9.6510444	2522	10.3489556	22333.4382	36	5007.627	9.6996320	3156
37	4480.192	9.6512966	2520	10.3487034	22320.4742	37	5011.266	9.6999474	3154
38	4482.792	9.6515486	2518	10.3484514	22307.5262	38	5014.906	9.7002628	3154
39	4485.392	9.6518004	2517	10.3481996	22294.5952	39	5018.547	9.7005780	3152
40	4487.992	9.6520521	2514	10.3479479	22281.6812	40	5022.189	9.7008930	3150
41	4490.591	9.6523035	2513	10.3476965	22268.7832	41	5025.832	9.7012080	3150
42	4493.190	9.6525548	2511	10.3474452	22255.9032	42	5029.476	9.7015227	3147
43	4495.789	9.6528059	2509	10.3471941	22243.0392	43	5033.121	9.7018374	3147
44	4498.387	9.6530568	2507	10.3469432	22230.1922	44	5036.767	9.7021519	3145
45	4500.985	9.6533075	2506	10.3466925	22217.3622	45	5040.415	9.7024663	3144
46	4503.582	9.6535581	2503	10.3464419	22204.5482	46	5044.063	9.7027805	3142
47	4506.179	9.6538084	2502	10.3461916	22191.7512	47	5047.713	9.7030946	3141
48	4508.776	9.6540586	2500	10.3459414	22178.9712	48	5051.363	9.7034086	3140
49	4511.372	9.6543086	2498	10.3456914	22166.2071	49	5055.015	9.7037225	3138
50	4513.968	9.6545584	2497	10.3454416	22153.4600	50	5058.668	9.7040362	3137
51	4516.563	9.6548081	2494	10.3451919	22140.7309	51	5062.322	9.7043497	3135
52	4519.158	9.6550575	2493	10.3449425	22128.0168	52	5065.977	9.7046632	3133
53	4521.753	9.6553068	2491	10.3446932	22115.3187	53	5069.633	9.7049765	3132
54	4524.347	9.6555559	2489	10.3444441	22102.6376	54	5073.290	9.7052897	3130
55	4526.941	9.6558048	2488	10.3441952	22089.9725	55	5076.948	9.7056037	3129
56	4529.535	9.6560536	2485	10.3439464	22077.3234	56	5080.607	9.7059176	3127
57	4532.128	9.6563021	2484	10.3436979	22064.6913	57	5084.267	9.7062314	3126
58	4534.721	9.6565505	2482	10.3434495	22052.0752	58	5087.928	9.7065450	3124
59	4537.313	9.6567987	2481	10.3432013	22039.4761	59	5091.591	9.7068585	3122
60	4539.905	9.6570468	2481	10.3429532	22026.8930	60	5095.254	9.7071659	3121
			Diff.	L. Sec.	N. Sec. 163				Diff.

			26	N. Sec.	L. Sec.	D		
10.3118182	20503.038	60	6	11126.019	10.0463398	617	9.9536602	8987.940
10.3114977	20487.910	59	1	11127.598	10.0464015	616	9.9535985	8986.665
10.3111773	20472.800	58	2	11129.179	10.0464631	615	9.9535369	8985.389
10.3108570	20457.708	57	3	11130.761	10.0465249	618	9.9534751	8984.112
10.3105369	20442.634	56	4	11132.345	10.0465866	617	9.9534134	8982.834
10.3102165	20427.578	55	5	11133.930	10.0466485	619	9.9533515	8981.555
10.3098970	20412.540	54	6	11135.516	10.0467103	618	9.9532897	8980.276
10.3095774	20397.519	53	7	11137.103	10.0467722	619	9.9532270	8978.996
10.3092578	20382.517	52	8	11138.692	10.0468342	620	9.9531658	8977.715
10.3089384	20367.532	51	9	11140.282	10.0468962	620	9.9531038	8976.433
10.3086191	20352.565	50	10	11141.874	10.0469582	620	9.9530418	8975.151
10.3083000	20337.619	49	11	11143.467	10.0470203	621	9.9529797	8973.863
10.3079811	20322.683	48	12	11145.062	10.0470825	622	9.9529175	8972.584
10.3076622	20307.769	47	13	11146.658	10.0471447	622	9.9528553	8971.309
10.3073435	20292.873	46	14	11148.255	10.0472069	622	9.9527931	8970.033
10.3070250	20277.994	45	15	11149.854	10.0472692	623	9.9527308	8968.757
10.3067066	20263.133	44	16	11151.454	10.0473315	623	9.9526685	8967.480
10.3063883	20248.289	43	17	11153.056	10.0473939	624	9.9526061	8966.203
10.3060702	20233.462	42	18	11154.659	10.0474563	624	9.9525437	8964.924
10.3057522	20218.653	41	19	11156.263	10.0475187	624	9.9524813	8963.645
10.3054344	20203.862	40	20	11157.869	10.0475812	625	9.9524188	8962.365
10.3051167	20189.088	39	21	11159.476	10.0476436	626	9.9523562	8961.085
10.3047991	20174.331	38	22	11161.084	10.0477060	626	9.9522938	8959.805
10.3044817	20159.592	37	23	11162.694	10.0477685	626	9.9522310	8958.524
10.3041645	20144.865	36	24	11164.306	10.0478317	627	9.9521683	8957.243
10.3038473	20130.164	35	25	11165.919	10.0478945	628	9.9521055	8955.962
10.3035303	20115.473	34	26	11167.533	10.0479574	627	9.9520428	8954.681
10.3032135	20100.806	33	27	11169.149	10.0480201	629	9.9519799	8953.400
10.3028968	20086.153	32	28	11170.766	10.0480829	628	9.9519171	8952.119
10.3025802	20071.517	31	29	11172.384	10.0481459	630	9.9518541	8950.838
10.3022637	20056.897	30	30	11174.004	10.0482088	629	9.9517912	8949.557
10.3019474	20042.295	29	31	11175.625	10.0482718	630	9.9517282	8948.276
10.3016313	20027.710	28	32	11177.248	10.0483349	631	9.9516651	8946.995
10.3013153	20013.142	27	33	11178.872	10.0483980	631	9.9516020	8945.714
10.3009994	19998.590	26	34	11180.498	10.0484611	632	9.9515389	8944.433
10.3006836	19984.056	25	35	11182.125	10.0485243	632	9.9514757	8943.152
10.3003680	19969.539	24	36	11183.753	10.0485876	633	9.9514124	8941.871
10.3000526	19955.038	23	37	11185.383	10.0486508	632	9.9513492	8940.590
10.2997372	19940.554	22	38	11187.014	10.0487142	634	9.9512859	8939.309
10.2994220	19926.087	21	39	11188.647	10.0487776	634	9.9512224	8938.028
10.2991070	19911.637	20	40	11190.281	10.0488410	634	9.9511590	8936.747
10.2987920	19897.201	19	41	11191.915	10.0489044	634	9.9510956	8935.466
10.2984773	19882.787	18	42	11193.553	10.0489680	636	9.9510320	8934.185
10.2981626	19868.387	17	43	11195.191	10.0490315	635	9.9509685	8932.904
10.2978481	19854.003	16	44	11196.831	10.0490951	636	9.9509049	8931.623
10.2975337	19839.636	15	45	11198.472	10.0491588	637	9.9508412	8930.342
10.2972193	19825.286	14	46	11200.115	10.0492225	637	9.9507775	8929.061
10.2969054	19810.952	13	47	11201.759	10.0492862	637	9.9507138	8927.780
10.2965914	19796.635	12	48	11203.405	10.0493500	638	9.9506500	8926.500
10.2962774	19782.334	11	49	11205.052	10.0494139	639	9.9505861	8925.219
10.2959636	19768.050	10	50	11206.700	10.0494777	640	9.9505223	8923.938
10.2956500	19753.782	9	51	11208.350	10.0495417	639	9.9504583	8922.657
10.2953368	19739.531	8	52	11210.001	10.0496056	640	9.9503944	8921.376
10.2950235	19725.296	7	53	11211.653	10.0496697	640	9.9503303	8920.095
10.2947101	19711.077	6	54	11213.307	10.0497337	640	9.9502663	8918.814
10.2943973	19696.874	5	55	11214.963	10.0497978	641	9.9502022	8917.533
10.2940844	19682.688	4	56	11216.620	10.0498620	642	9.9501380	8916.252
10.2937716	19668.518	3	57	11218.278	10.0499262	643	9.9500738	8914.971
10.2934590	19654.364	2	58	11219.938	10.0499905	643	9.9500095	8913.690
10.2931465	19640.227	1	59	11221.600	10.0500548	643	9.9499452	8912.409
10.2928341	19626.105	0	60	11223.262	10.0501191	643	9.9498809	8911.128
L. Tan.	N. Tan.	63				D	L. Sin.	N. Sin.

27 | N. Sin.	L. Sin.	Diff.			27 | N. Tan.	L. Tan.	Diff.
4539.905	2.6570468		10.4329532	22026.89360	0.5095.254	9.7071659	
14542.497	2.6572946	2478	10.3427054	22014.32659	1.5098.919	9.7074781	3122
24545.088	2.6575423	2477	10.3424577	22001.77558	2.5102.585	9.7077902	3121
34547.678	2.6577898	2475	10.3422101	21989.24057	3.5106.252	9.7081022	3120
44550.269	2.6580371	2473	10.3419625	21976.72156	4.5109.919	9.7084141	3119
54552.859	2.6582842	2471	10.3417158	21964.21955	5.5113.588	9.7087258	3117
64555.445	2.6585312	2470	10.3414688	21951.73354	6.5117.259	9.7090374	3116
74558.038	2.6587780	2468	10.3412220	21939.26253	7.5120.930	9.7093488	3114
84560.627	2.6590246	2466	10.3409754	21926.80852	8.5124.602	9.7096601	3113
94563.216	2.6592710	2464	10.3407290	21914.37051	9.5128.275	9.7099713	3112
104565.804	2.6595173	2463	10.3404827	21901.94750	10.5131.950	9.7102824	3111
114568.392	2.6597634	2461	10.3402367	21889.54149	11.5135.625	9.7105933	3109
124570.979	2.6600095	2459	10.3399907	21877.15048	12.5139.302	9.7109041	3108
134573.566	2.6602556	2457	10.3397450	21864.77547	13.5142.980	9.7112148	3107
144576.153	2.6605005	2455	10.3394995	21852.41746	14.5146.658	9.7115254	3106
154578.739	2.6607459	2454	10.3392541	21840.07445	15.5150.338	9.7118358	3104
164581.325	2.6609911	2452	10.3390089	21827.74644	16.5154.019	9.7121461	3103
174583.910	2.6612361	2450	10.3387639	21815.43543	17.5157.702	9.7124562	3101
184586.495	2.6614810	2449	10.3385190	21803.13942	18.5161.385	9.7127662	3100
194589.080	2.6617257	2447	10.3382743	21790.85941	19.5165.069	9.7130761	3099
204591.664	2.6619702	2445	10.3380298	21778.59440	20.5168.755	9.7133859	3098
214594.248	2.6622145	2443	10.3377855	21766.34639	21.5172.441	9.7136956	3097
224596.832	2.6624586	2441	10.3375414	21754.11238	22.5176.129	9.7140051	3095
234599.415	2.6627026	2440	10.3372974	21741.89537	23.5179.818	9.7143145	3094
244601.998	2.6629464	2438	10.3370536	21729.69336	24.5183.508	9.7146237	3092
254604.580	2.6631900	2436	10.3368100	21717.50635	25.5187.199	9.7149329	3091
264607.162	2.6634335	2435	10.3365665	21705.33534	26.5190.891	9.7152419	3090
274609.744	2.6636768	2433	10.3363232	21693.18033	27.5194.584	9.7155508	3089
284612.325	2.6639199	2431	10.3360801	21681.04032	28.5198.278	9.7158595	3087
294614.906	2.6641628	2429	10.3358372	21668.91531	29.5201.974	9.7161682	3086
304617.486	2.6644056	2428	10.3355944	21656.80630	30.5205.670	9.7164767	3085
314620.066	2.6646482	2426	10.3353518	21644.71229	31.5209.368	9.7167851	3084
324622.646	2.6648906	2424	10.3351094	21632.63328	32.5213.067	9.7170933	3082
334625.225	2.6651329	2423	10.3348671	21620.57027	33.5216.767	9.7174014	3081
344627.804	2.6653749	2420	10.3346251	21608.52226	34.5220.468	9.7177094	3080
354630.382	2.6656168	2419	10.3343832	21596.48925	35.5224.170	9.7180173	3079
364632.960	2.6658586	2418	10.3341414	21584.47124	36.5227.874	9.7183251	3078
374635.538	2.6661001	2415	10.3338995	21572.46923	37.5231.578	9.7186327	3076
384638.115	2.6663415	2414	10.3336585	21560.48222	38.5235.284	9.7189402	3075
394640.692	2.6665828	2413	10.3334172	21548.51021	39.5238.990	9.7192476	3074
404643.269	2.6668238	2410	10.3331762	21536.55320	40.5242.698	9.7195549	3073
414645.845	2.6670647	2409	10.3329353	21524.61119	41.5246.407	9.7198620	3071
424648.421	2.6673054	2407	10.3326946	21512.68418	42.5250.117	9.7201690	3070
434650.996	2.6675459	2405	10.3324541	21500.77217	43.5253.829	9.7204759	3069
444653.571	2.6677863	2404	10.3322137	21488.87516	44.5257.541	9.7207827	3068
454656.145	2.6680265	2402	10.3319735	21476.99315	45.5261.254	9.7210893	3066
464658.719	2.6682665	2400	10.3317335	21465.12714	46.5264.969	9.7213958	3065
474661.293	2.6685064	2399	10.3314936	21453.27513	47.5268.685	9.7217022	3064
484663.866	2.6687461	2397	10.3312539	21441.43712	48.5272.402	9.7220085	3063
494666.439	2.6689856	2395	10.3310144	21429.61511	49.5276.120	9.7223147	3062
504669.012	2.6692250	2394	10.3307750	21417.80810	50.5279.839	9.7226207	3060
514671.584	2.6694642	2392	10.3305358	21406.0159	51.5283.555	9.7229266	3059
524674.156	2.6697032	2390	10.3302968	21394.2388	52.5287.281	9.7232324	3057
534676.727	2.6699420	2388	10.3300580	21382.4757	53.5291.004	9.7235381	3056
544679.298	2.6701807	2387	10.3298193	21370.7266	54.5294.727	9.7238436	3055
554681.869	2.6704192	2385	10.3295808	21358.9935	55.5298.452	9.7241490	3054
564684.439	2.6706576	2384	10.3293424	21347.2744	56.5302.178	9.7244543	3053
574687.009	2.6708958	2382	10.3291042	21335.5703	57.5305.906	9.7247595	3052
584689.578	2.6711338	2380	10.3288662	21323.8802	58.5309.634	9.7250646	3051
594692.147	2.6713716	2378	10.3286284	21312.2051	59.5313.364	9.7253695	3049
604694.716	2.6716093	2377	10.3283907	21300.5450	60.5317.094	9.7256744	3048
		Diff.	L. Sec.	N. Sec. 62			Diff.

		27 N Sec.	L. Sec.	D.		
10.2928341	19626.105	60	0 11223.262	10.0501191	5.9498309	8910.065
10.2925219	19612.000	59	1 11224.926	10.0501835	5.9498165	8908.744
10.2922098	19597.910	58	2 11226.592	10.0502479	5.9497521	8907.422
10.2918978	19583.827	57	3 11228.259	10.0503124	5.9496876	8906.100
10.2915859	19569.780	56	4 11229.928	10.0503770	5.9496230	8904.777
10.2912742	19555.733	55	5 11231.598	10.0504415	5.9495585	8903.453
10.2909626	19541.713	54	6 11233.269	10.0505062	5.9494938	8902.128
10.2906512	19527.704	53	7 11234.942	10.0505708	5.9494292	8900.802
10.2903399	19513.711	52	8 11236.616	10.0506355	5.9493645	8899.476
10.2900287	19499.733	51	9 11238.292	10.0507003	5.9492997	8898.149
10.2897167	19485.771	50	10 11239.969	10.0507651	5.9492349	8896.821
10.2894067	19471.826	49	11 11241.648	10.0508300	5.9491700	8895.493
10.2890959	19457.896	48	12 11243.328	10.0508949	5.9491051	8894.164
10.2887852	19443.981	47	13 11245.010	10.0509598	5.9490402	8892.834
10.2884746	19430.083	46	14 11246.693	10.0510248	5.9489752	8891.503
10.2881642	19416.200	45	15 11248.377	10.0510899	5.9489101	8890.171
10.2878539	19402.333	44	16 11250.063	10.0511550	5.9488450	8888.839
10.2875438	19388.481	43	17 11251.750	10.0512201	5.9487799	8887.506
10.2872338	19374.645	42	18 11253.439	10.0512853	5.9487147	8886.172
10.2869235	19360.825	41	19 11255.129	10.0513505	5.9486495	8884.837
10.2866141	19347.020	40	20 11256.821	10.0514158	5.9485842	8883.502
10.2863044	19333.221	39	21 11258.514	10.0514811	5.9485189	8882.166
10.2859949	19319.437	38	22 11260.209	10.0515465	5.9484535	8880.829
10.2856855	19305.698	37	23 11261.905	10.0516119	5.9483881	8879.492
10.2853763	19291.976	36	24 11263.603	10.0516773	5.9483227	8878.154
10.2850671	19278.228	35	25 11265.302	10.0517428	5.9482572	8876.815
10.2847581	19264.516	34	26 11267.003	10.0518084	5.9481916	8875.475
10.2844492	19250.819	33	27 11268.705	10.0518740	5.9481260	8874.134
10.2841405	19237.138	32	28 11270.408	10.0519396	5.9480604	8872.793
10.2838318	19223.472	31	29 11272.113	10.0520053	5.9479947	8871.451
10.2835233	19209.821	30	30 11273.817	10.0520711	5.9479289	8870.108
10.2832149	19196.186	29	31 11275.527	10.0521369	5.9478631	8868.764
10.2829067	19182.565	28	32 11277.237	10.0522027	5.9477973	8867.420
10.2825986	19168.960	27	33 11278.948	10.0522686	5.9477314	8866.075
10.2822906	19155.370	26	34 11230.660	10.0523345	5.9476655	8864.729
10.2819827	19141.795	25	35 11282.371	10.0524003	5.9475995	8863.383
10.2816749	19128.242	24	36 11284.082	10.0524661	5.9475335	8862.036
10.2813673	19114.691	23	37 11285.806	10.0525320	5.9474674	8860.688
10.2810598	19101.162	22	38 11287.524	10.0525978	5.9474013	8859.339
10.2807524	19087.647	21	39 11289.241	10.0526636	5.9473352	8857.989
10.2804451	19074.147	20	40 11290.965	10.0527294	5.9472699	8856.639
10.2801380	19060.663	19	41 11292.688	10.0527952	5.9472047	8855.288
10.2798310	19047.193	18	42 11294.412	10.0528610	5.9471394	8853.936
10.2795241	19033.738	17	43 11296.137	10.0529268	5.9470740	8852.583
10.2792173	19020.299	16	44 11297.864	10.0529926	5.9470086	8851.230
10.2789107	19006.874	15	45 11299.593	10.0530584	5.9469432	8849.876
10.2786042	18993.464	14	46 11301.321	10.0531242	5.9468777	8848.521
10.2782978	18980.068	13	47 11303.051	10.0531900	5.9468122	8847.166
10.2779915	18966.688	12	48 11304.783	10.0532558	5.9467467	8845.810
10.2776853	18953.322	11	49 11306.521	10.0533216	5.9466812	8844.453
10.2773793	18939.971	10	50 11308.258	10.0533874	5.9466157	8843.095
10.2770734	18926.634	9	51 11309.996	10.0534532	5.9465502	8841.736
10.2767676	18913.313	8	52 11311.735	10.0535190	5.9464847	8840.377
10.2764619	18900.006	7	53 11313.475	10.0535848	5.9464192	8839.017
10.2761564	18886.713	6	54 11315.217	10.0536506	5.9463537	8837.656
10.2758510	18873.426	5	55 11316.961	10.0537164	5.9462882	8836.294
10.2755457	18860.172	4	56 11318.706	10.0537822	5.9462227	8834.932
10.2752405	18846.924	3	57 11320.452	10.0538480	5.9461572	8833.569
10.2749354	18833.690	2	58 11322.200	10.0539138	5.9460917	8832.205
10.2746305	18820.470	1	59 11323.950	10.0539796	5.9460262	8830.841
10.2743265	18807.265	0	60 11325.701	10.0540454	5.9459607	8829.476
L. Tan.	N. Tan. 62			D. L. Sin.	N. Sin. 62	

28	N. Sin.	L. Sin.	Diff.			28	N. Tan.	L. Tan.	Diff.
0	4694.71	9.6716093	10.3283907	21300.545	60	0	5317.094	9.7256744	
1	4697.28	9.6718468	10.3281532	21288.899	59	1	5320.826	9.7259791	3047
2	4699.85	9.6720841	10.3279159	21277.267	58	2	5324.559	9.7262837	3046
3	4702.419	9.6723213	10.3276787	21265.651	57	3	5328.293	9.7265881	3044
4	4704.986	9.6725583	10.3274417	21254.045	56	4	5332.029	9.7268925	3044
5	4707.553	9.6727952	10.3272048	21242.460	55	5	5335.765	9.7271967	3042
6	4710.119	9.6730319	10.3269681	21230.887	54	6	5339.503	9.7275008	3041
7	4712.685	9.6732684	10.3267316	21219.328	53	7	5343.242	9.7278048	3040
8	4715.250	9.6735047	10.3264953	21207.783	52	8	5346.982	9.7281087	3039
9	4717.815	9.6737409	10.3262591	21196.253	51	9	5350.723	9.7284124	3037
10	4720.380	9.6739769	10.3260232	21184.737	50	10	5354.465	9.7287161	3037
11	4722.944	9.6742128	10.3257872	21173.235	49	11	5358.208	9.7290196	3035
12	4725.508	9.6744485	10.3255515	21161.748	48	12	5361.953	9.7293230	3034
13	4728.071	9.6746840	10.3253160	21150.274	47	13	5365.699	9.7296263	3033
14	4730.634	9.6749194	10.3250806	21138.815	46	14	5369.446	9.7299295	3032
15	4733.197	9.6751546	10.3248454	21127.371	45	15	5373.194	9.7302325	3030
16	4735.759	9.6753896	10.3246104	21115.940	44	16	5376.943	9.7305354	3029
17	4738.321	9.6756245	10.3243756	21104.523	43	17	5380.694	9.7308383	3029
18	4740.882	9.6758592	10.3241408	21093.121	42	18	5384.445	9.7311410	3027
19	4743.443	9.6760937	10.3239063	21081.733	41	19	5388.198	9.7314436	3026
20	4746.004	9.6763281	10.3236719	21070.359	40	20	5391.952	9.7317460	3024
21	4748.564	9.6765623	10.3234377	21058.998	39	21	5395.707	9.7320484	3024
22	4751.124	9.6767963	10.3232037	21047.652	38	22	5399.464	9.7323506	3022
23	4753.683	9.6770302	10.3229698	21036.320	37	23	5403.221	9.7326527	3021
24	4756.242	9.6772640	10.3227360	21025.002	36	24	5406.980	9.7329547	3020
25	4758.801	9.6774975	10.3225025	21013.698	35	25	5410.740	9.7332566	3019
26	4761.359	9.6777309	10.3222691	21002.408	34	26	5414.501	9.7335584	3018
27	4763.917	9.6779642	10.3220358	20991.131	33	27	5418.263	9.7338601	3017
28	4766.474	9.6781972	10.3218028	20979.869	32	28	5422.027	9.7341616	3015
29	4769.031	9.6784301	10.3215699	20968.620	31	29	5425.791	9.7344631	3015
30	4771.588	9.6786629	10.3213371	20957.385	30	30	5429.557	9.7347644	3013
31	4774.144	9.6788955	10.3211045	20946.164	29	31	5433.324	9.7350656	3012
32	4776.700	9.6791279	10.3208721	20934.957	28	32	5437.092	9.7353667	3011
33	4779.255	9.6793602	10.3206398	20923.764	27	33	5440.862	9.7356677	3010
34	4781.810	9.6795923	10.3204077	20912.584	26	34	5444.632	9.7359685	3008
35	4784.364	9.6798243	10.3201757	20901.418	25	35	5448.404	9.7362693	3008
36	4786.918	9.6800560	10.3199440	20890.265	24	36	5452.177	9.7365699	3006
37	4789.472	9.6802877	10.3197123	20879.127	23	37	5455.951	9.7368705	3005
38	4792.026	9.6805191	10.3194807	20868.002	22	38	5459.726	9.7371709	3003
39	4794.579	9.6807504	10.3192496	20856.890	21	39	5463.503	9.7374712	3002
40	4797.131	9.6809816	10.3190184	20845.792	20	40	5467.281	9.7377714	3001
41	4799.683	9.6812126	10.3187874	20834.708	19	41	5471.060	9.7380715	2999
42	4802.235	9.6814434	10.3185566	20823.637	18	42	5474.840	9.7383714	2999
43	4804.786	9.6816741	10.3183259	20812.580	17	43	5478.621	9.7386713	2997
44	4807.337	9.6819046	10.3180954	20801.536	16	44	5482.404	9.7389710	2997
45	4809.888	9.6821349	10.3178651	20790.505	15	45	5486.188	9.7392707	2995
46	4812.438	9.6823651	10.3176349	20779.489	14	46	5489.973	9.7395702	2994
47	4814.988	9.6825952	10.3174048	20768.486	13	47	5493.759	9.7398696	2993
48	4817.537	9.6828250	10.3171750	20757.496	12	48	5497.546	9.7401689	2992
49	4820.086	9.6830548	10.3169452	20746.519	11	49	5501.335	9.7404681	2991
50	4822.634	9.6832843	10.3167157	20735.556	10	50	5505.125	9.7407672	2990
51	4825.182	9.6835137	10.3164863	20724.606	9	51	5508.916	9.7410662	2988
52	4827.730	9.6837430	10.3162570	20713.670	8	52	5512.708	9.7413650	2988
53	4830.277	9.6839720	10.3160280	20702.746	7	53	5516.502	9.7416638	2986
54	4832.824	9.6842010	10.3157990	20691.836	6	54	5520.297	9.7419624	2985
55	4835.370	9.6844297	10.3155703	20680.940	5	55	5524.093	9.7422609	2985
56	4837.916	9.6846583	10.3153417	20670.056	4	56	5527.890	9.7425594	2983
57	4840.462	9.6848868	10.3151132	20659.186	3	57	5531.688	9.7428577	2982
58	4843.007	9.6851151	10.3148849	20648.328	2	58	5535.488	9.7431559	2981
59	4845.552	9.6853432	10.3146568	20637.484	1	59	5539.288	9.7434540	2980
60	4848.096	9.6855712	10.3144288	20626.653	0	60	5543.090	9.7437520	2980
		Diff.	L. Sec.	N. Sec.	61				Diff.

			28	N. Sec.	L. Sec.	D.			
10.2743156	18807.265	60	0	11325.701	10.0540651	672	9.9459349	8829.476	60
10.2740209	18754.074	59	1	11327.453	10.0541323	672	9.9458677	8828.110	59
10.2737163	18780.898	58	2	11329.207	10.0541995	673	9.9458005	8826.743	58
10.2734119	18767.736	57	3	11330.962	10.0542668	673	9.9457331	8825.375	57
10.2731075	18754.588	56	4	11332.719	10.0543341	674	9.9456659	8824.007	56
10.2728033	18741.455	55	5	11334.478	10.0544015	675	9.9455985	8822.638	55
10.2724992	18728.330	54	6	11336.238	10.0544690	675	9.9455310	8821.268	54
10.2721952	18715.231	53	7	11337.999	10.0545364	676	9.9454636	8819.898	53
10.2718913	18702.141	52	8	11339.762	10.0546040	676	9.9453966	8818.527	52
10.2715876	18689.064	51	9	11341.527	10.0546715	676	9.9453285	8817.155	51
10.2712839	18676.003	50	10	11343.293	10.0547391	677	9.9452609	8815.782	50
10.2709804	18662.955	49	11	11345.050	10.0548066	677	9.9451932	8814.409	49
10.2706770	18649.921	48	12	11346.829	10.0548745	678	9.9451255	8813.035	48
10.2703737	18636.902	47	13	11348.600	10.0549423	678	9.9450577	8811.660	47
10.2700705	18623.896	46	14	11350.372	10.0550101	679	9.9449895	8810.284	46
10.2697675	18610.905	45	15	11352.146	10.0550780	679	9.9449220	8808.907	45
10.2694646	18597.928	44	16	11353.921	10.0551459	679	9.9448541	8807.530	44
10.2691617	18584.965	43	17	11355.698	10.0552138	680	9.9447861	8806.152	43
10.2688590	18572.015	42	18	11357.476	10.0552818	681	9.9447182	8804.773	42
10.2685564	18559.080	41	19	11359.255	10.0553499	681	9.9446501	8803.394	41
10.2682540	18546.159	40	20	11361.036	10.0554179	682	9.9445821	8802.014	40
10.2679516	18533.252	39	21	11362.819	10.0554861	682	9.9445139	8800.633	39
10.2676494	18520.358	38	22	11364.603	10.0555543	682	9.9444457	8799.251	38
10.2673473	18507.479	37	23	11366.389	10.0556225	683	9.9443775	8797.869	37
10.2670453	18494.613	36	24	11368.476	10.0556908	683	9.9443092	8796.486	36
10.2667434	18481.761	35	25	11369.965	10.0557591	684	9.9442409	8795.102	35
10.2664416	18468.923	34	26	11371.755	10.0558275	684	9.9441725	8793.717	34
10.2661399	18456.099	33	27	11373.547	10.0558959	684	9.9441041	8792.332	33
10.2658384	18443.289	32	28	11375.340	10.0559644	685	9.9440356	8790.946	32
10.2655369	18430.492	31	29	11377.135	10.0560329	685	9.9439671	8789.559	31
10.2652356	18417.709	30	30	11378.932	10.0561015	686	9.9438985	8788.171	30
10.2649344	18404.939	29	31	11380.730	10.0561701	687	9.9438299	8786.783	29
10.2646333	18392.184	28	32	11382.529	10.0562388	687	9.9437612	8785.394	28
10.2643323	18379.442	27	33	11384.330	10.0563075	687	9.9436925	8784.004	27
10.2640315	18366.713	26	34	11386.133	10.0563762	688	9.9436238	8782.613	26
10.2637307	18353.999	25	35	11387.939	10.0564451	688	9.9435549	8781.222	25
10.2634301	18341.297	24	36	11389.743	10.0565139	689	9.9434861	8779.830	24
10.2631295	18328.610	23	37	11391.550	10.0565828	689	9.9434172	8778.437	23
10.2628291	18315.936	22	38	11393.359	10.0566518	690	9.9433482	8777.043	22
10.2625288	18303.275	21	39	11395.169	10.0567208	690	9.9432792	8775.649	21
10.2622286	18290.628	20	40	11396.981	10.0567898	691	9.9432102	8774.254	20
10.2619285	18277.994	19	41	11398.794	10.0568589	691	9.9431411	8772.858	19
10.2616286	18265.374	18	42	11400.609	10.0569280	692	9.9430720	8771.461	18
10.2613287	18252.767	17	43	11402.425	10.0569972	692	9.9430028	8770.064	17
10.2610290	18240.173	16	44	11404.243	10.0570665	692	9.9429335	8768.666	16
10.2607293	18227.593	15	45	11406.062	10.0571357	693	9.9428643	8767.267	15
10.2604298	18215.026	14	46	11407.883	10.0572051	694	9.9427949	8765.868	14
10.2601304	18202.473	13	47	11409.706	10.0572745	694	9.9427255	8764.468	13
10.2598311	18189.932	12	48	11411.530	10.0573439	695	9.9426561	8763.067	12
10.2595319	18177.405	11	49	11413.356	10.0574134	695	9.9425866	8761.665	11
10.2592328	18164.892	10	50	11415.183	10.0574829	695	9.9425171	8760.262	10
10.2589338	18152.391	9	51	11417.012	10.0575524	696	9.9424476	8758.859	9
10.2586350	18139.904	8	52	11418.842	10.0576221	696	9.9423779	8757.455	8
10.2583362	18127.430	7	53	11420.674	10.0576917	697	9.9423083	8756.050	7
10.2580376	18114.969	6	54	11422.507	10.0577614	697	9.9422386	8754.645	6
10.2577391	18102.521	5	55	11424.342	10.0578312	698	9.9421688	8753.239	5
10.2574406	18090.086	4	56	11426.179	10.0579010	698	9.9420990	8751.832	4
10.2571423	18077.664	3	57	11428.017	10.0579709	699	9.9420291	8750.424	3
10.2568441	18065.256	2	58	11429.857	10.0580408	699	9.9419592	8749.016	2
10.2565460	18052.860	1	59	11431.698	10.0581107	700	9.9418893	8747.607	1
10.2562480	18040.478	0	60	11433.541	10.0581807	700	9.9418193	8746.197	0
L. Tang.	N. Tan.	61					L. Sin.	N. Sin.	61

26	N. Sin.	L. Sin.	Diff.			26	N. Tan.	L. Tan.	Diff.
1	4348.036	9.6855712		10.3144288	20626.653	60	9.5543.090	9.74375.20	
2	4350.640	9.6857229	2279	10.3142059	20615.836	59	9.5546.894	9.7440499	2979
3	4353.184	9.6860367	2276	10.3139733	20605.031	58	9.5550.698	9.7443476	2977
4	4355.727	9.6862542	2275	10.3137458	20594.239	57	9.5554.504	9.7446453	2977
5	4358.270	9.6864815	2274	10.3135184	20583.460	56	9.5558.311	9.7449428	2975
6	4360.812	9.6867388	2272	10.3132912	20572.695	55	9.5562.119	9.7452403	2975
7	4363.354	9.6869359	2271	10.3130641	20561.942	54	9.5565.929	9.7455376	2973
8	4365.895	9.6871628	2269	10.3128372	20551.203	53	9.5569.737	9.7458349	2973
9	4368.436	9.6873898	2267	10.3126105	20540.476	52	9.5573.551	9.7461320	2971
10	4370.977	9.6876161	2266	10.3123839	20529.762	51	9.5577.364	9.7464290	2970
11	4373.517	9.6878425	2264	10.3121575	20519.061	50	9.5581.179	9.7467259	2969
12	4376.057	9.6880688	2263	10.3119312	20508.373	49	9.5584.994	9.7470227	2968
13	4378.597	9.6882949	2261	10.3117051	20497.698	48	9.5588.811	9.7473194	2967
14	4381.136	9.6885209	2260	10.3114791	20487.036	47	9.5592.629	9.7476160	2966
15	4383.674	9.6887467	2258	10.3112533	20476.386	46	9.5596.448	9.7479125	2965
16	4386.212	9.6889721	2256	10.3110277	20465.750	45	9.5600.269	9.7482089	2964
17	4388.750	9.6891978	2255	10.3108022	20455.126	44	9.5604.091	9.7485052	2963
18	4391.287	9.6894232	2254	10.3105768	20444.515	43	9.5607.914	9.7488013	2961
19	4393.824	9.6896484	2252	10.3103516	20433.916	42	9.5611.738	9.7490974	2961
20	4396.361	9.6898734	2250	10.3101266	20423.330	41	9.5615.564	9.7493934	2960
21	4398.897	9.6900983	2249	10.3099017	20412.757	40	9.5619.391	9.7496892	2958
22	4401.433	9.6903231	2248	10.3096769	20402.197	39	9.5623.219	9.7499850	2958
23	4403.968	9.6905476	2245	10.3094524	20391.649	38	9.5627.048	9.7502806	2956
24	4406.503	9.6907721	2245	10.3092279	20381.114	37	9.5630.879	9.7505762	2956
25	4409.037	9.6909954	2243	10.3090036	20370.592	36	9.5634.710	9.7508716	2954
26	4411.571	9.6912205	2241	10.3087795	20360.082	35	9.5638.543	9.7511665	2953
27	4414.105	9.6914445	2240	10.3085555	20349.585	34	9.5642.378	9.7514622	2953
28	4416.638	9.6916683	2239	10.3083317	20339.100	33	9.5646.213	9.7517573	2951
29	4419.171	9.6918919	2236	10.3081081	20328.627	32	9.5650.050	9.7520523	2950
30	4421.704	9.6921155	2235	10.3078845	20318.168	31	9.5653.888	9.7523472	2949
31	4424.236	9.6923388	2233	10.3076612	20307.720	30	9.5657.728	9.7526420	2948
32	4426.767	9.6925620	2232	10.3074380	20297.286	29	9.5661.568	9.7529368	2948
33	4429.298	9.6927851	2231	10.3072149	20286.863	28	9.5665.410	9.7532314	2946
34	4431.829	9.6930083	2229	10.3069920	20276.453	27	9.5669.253	9.7535259	2945
35	4434.359	9.6932308	2228	10.3067692	20266.056	26	9.5673.098	9.7538203	2944
36	4436.889	9.6934534	2226	10.3065466	20255.670	25	9.5676.944	9.7541146	2943
37	4439.419	9.6936758	2224	10.3063242	20245.297	24	9.5680.791	9.7544088	2942
38	4441.948	9.6938983	2223	10.3061019	20234.937	23	9.5684.639	9.7547029	2941
39	4444.477	9.6941205	2222	10.3058797	20224.589	22	9.5688.488	9.7549969	2940
40	4447.005	9.6943423	2220	10.3056577	20214.253	21	9.5692.339	9.7552908	2939
41	4449.533	9.6945642	2219	10.3054358	20203.929	20	9.5696.191	9.7555846	2938
42	4452.060	9.6947859	2217	10.3052141	20193.617	19	9.5700.045	9.7558783	2937
43	4454.587	9.6950074	2215	10.3049926	20183.318	18	9.5703.899	9.7561718	2935
44	4457.113	9.6952283	2214	10.3047712	20173.031	17	9.5707.755	9.7564653	2935
45	4459.639	9.6954501	2213	10.3045492	20162.756	16	9.5711.612	9.7567587	2934
46	4462.165	9.6956712	2211	10.3043283	20152.494	15	9.5715.471	9.7570520	2933
47	4464.690	9.6958922	2210	10.3041078	20142.243	14	9.5719.331	9.7573452	2932
48	4467.215	9.6961130	2208	10.3038870	20132.005	13	9.5723.192	9.7576383	2931
49	4469.740	9.6963336	2206	10.3036664	20121.779	12	9.5727.054	9.7579313	2930
50	4472.264	9.6965541	2205	10.3034459	20111.564	11	9.5730.918	9.7582242	2929
51	4474.787	9.6967745	2204	10.3032255	20101.362	10	9.5734.783	9.7585170	2928
52	4477.310	9.6969947	2202	10.3030053	20091.172	9	9.5738.649	9.7588096	2926
53	4479.833	9.6972148	2201	10.3027852	20080.994	8	9.5742.516	9.7591022	2926
54	4482.355	9.6974347	2199	10.3025653	20070.828	7	9.5746.385	9.7593947	2925
55	4484.877	9.6976545	2198	10.3023455	20060.674	6	9.5750.255	9.7596871	2924
56	4487.399	9.6978741	2196	10.3021259	20050.532	5	9.5754.126	9.7599794	2923
57	4489.920	9.6980936	2195	10.3019064	20040.402	4	9.5757.999	9.7602716	2922
58	4492.441	9.6983129	2193	10.3016871	20030.283	3	9.5761.873	9.7605637	2921
59	4494.961	9.6985321	2192	10.3014679	20020.177	2	9.5765.748	9.7608557	2920
60	4497.481	9.6987511	2190	10.3012489	20010.083	1	9.5769.625	9.7611476	2919
61	4500.000	9.6989700	2189	10.3010300	20000.000	0	9.5773.503	9.7614394	2918
			Diff.	L. Sec.	N. Sec.	100			Diff.

		29	N. Sec.	L. Sec.	D		
10.256240	18040.478	60	11433.541	10.0581807	701	9.9418193	8746.197
10.2559501	18028.108	59	11435.385	10.0582508	701	9.9417492	8744.786
10.2556524	18015.751	58	211437.231	10.0583209	701	9.9416791	8743.375
10.2553547	18003.408	57	311439.078	10.0583910	701	9.9416090	8741.963
10.2550572	17991.077	56	411440.927	10.0584612	702	9.9415388	8740.550
10.2547597	17978.759	55	511442.778	10.0585315	703	9.9414685	8739.136
10.2544624	17966.454	54	611444.630	10.0586018	703	9.9413982	8737.722
10.2541651	17954.162	53	711446.484	10.0586721	703	9.9413279	8736.307
10.2538680	17941.883	52	811448.339	10.0587425	704	9.9412575	8734.891
10.2535710	17929.616	51	911450.196	10.0588129	704	9.9411871	8733.475
10.2532741	17917.362	50	1011452.055	10.0588834	705	9.9411166	8732.058
10.2529772	17905.121	49	1111453.915	10.0589539	705	9.9410461	8730.640
10.2526806	17892.893	48	1211455.776	10.0590245	706	9.9409755	8729.221
10.2523840	17880.678	47	1311457.639	10.0590952	707	9.9409048	8727.801
10.2520875	17868.475	46	1411459.504	10.0591658	706	9.9408342	8726.381
10.2517911	17856.285	45	1511461.370	10.0592366	708	9.9407634	8724.960
10.2514948	17844.107	44	1611463.238	10.0593073	707	9.9406927	8723.538
10.2511987	17831.943	43	1711465.108	10.0593781	708	9.9406219	8722.116
10.2509026	17819.790	42	1811466.979	10.0594490	709	9.9405510	8720.693
10.2506066	17807.651	41	1911468.852	10.0595199	709	9.9404801	8719.269
10.2503108	17795.524	40	2011470.726	10.0595909	710	9.9404091	8717.844
10.2500150	17783.409	39	2111472.602	10.0596619	710	9.9403383	8716.419
10.2497194	17771.307	38	2211474.479	10.0597330	711	9.9402670	8714.993
10.2494238	17759.218	37	2311476.358	10.0598041	711	9.9401959	8713.566
10.2491284	17747.141	36	2411478.239	10.0598752	711	9.9401248	8712.138
10.2488331	17735.076	35	2511480.121	10.0599465	713	9.9400535	8710.710
10.2485378	17723.024	34	2611482.005	10.0600177	712	9.9399823	8709.281
10.2482427	17710.985	33	2711483.890	10.0600890	713	9.9399110	8707.851
10.2479477	17698.958	32	2811485.777	10.0601604	714	9.9398396	8706.420
10.2476528	17686.943	31	2911487.665	10.0602318	714	9.9397681	8704.989
10.2473580	17674.940	30	3011489.555	10.0603032	714	9.9396968	8703.557
10.2470632	17662.950	29	3111491.447	10.0603747	715	9.9396253	8702.124
10.2467686	17650.972	28	3211493.340	10.0604463	716	9.9395537	8700.690
10.2464741	17639.007	27	3311495.235	10.0605179	716	9.9394821	8699.256
10.2461797	17627.053	26	3411497.132	10.0605895	717	9.9394105	8697.821
10.2458854	17615.112	25	3511499.030	10.0606612	717	9.9393388	8696.385
10.2455912	17603.183	24	3611500.930	10.0607329	717	9.9392671	8694.949
10.2452971	17591.267	23	3711502.831	10.0608047	718	9.9391953	8693.512
10.2450031	17579.362	22	3811504.734	10.0608766	718	9.9391234	8692.074
10.2447092	17567.470	21	3911506.638	10.0609485	719	9.9390515	8690.635
10.2444154	17555.590	20	4011508.544	10.0610204	719	9.9389796	8689.196
10.2441217	17543.722	19	4111510.452	10.0610924	720	9.9389076	8687.756
10.2438282	17531.866	18	4211512.361	10.0611644	720	9.9388356	8686.315
10.2435347	17520.023	17	4311514.272	10.0612365	721	9.9387635	8684.873
10.2432413	17508.191	16	4411516.185	10.0613085	721	9.9386914	8683.431
10.2429480	17496.371	15	4511518.099	10.0613808	722	9.9386192	8681.988
10.2426548	17484.564	14	4611520.015	10.0614530	722	9.9385470	8680.544
10.2423617	17472.763	13	4711521.932	10.0615253	723	9.9384747	8679.100
10.2420687	17460.984	12	4811523.851	10.0615976	723	9.9384024	8677.655
10.2417758	17449.213	11	4911525.772	10.0616700	724	9.9383300	8676.209
10.2414830	17437.453	10	5011527.694	10.0617424	724	9.9382576	8674.762
10.2411904	17425.705	9	5111529.618	10.0618149	725	9.9381851	8673.314
10.2408978	17413.969	8	5211531.543	10.0618874	725	9.9381126	8671.866
10.2406053	17402.245	7	5311533.470	10.0619600	726	9.9380400	8670.417
10.2403129	17390.533	6	5411535.399	10.0620326	726	9.9379674	8668.967
10.2400206	17378.833	5	5511537.329	10.0621053	727	9.9378947	8667.517
10.2397284	17367.144	4	5611539.261	10.0621780	727	9.9378220	8666.066
10.2394363	17355.468	3	5711541.195	10.0622508	728	9.9377492	8664.614
10.2391443	17343.803	2	5811543.130	10.0623236	728	9.9376764	8663.161
10.2388524	17332.149	1	5911545.067	10.0623965	729	9.9376035	8661.708
10.2385606	17320.508	0	6011547.005	10.0624694	729	9.9375306	8660.254
L. Tan.	N. Tan.	60			D	L. Sin.	N. Sin.

30	N. Sin.	N. Sin.	Diff.			30	N. Tan.	L. Tan.	Diff.
0	5000.000	9.6987700		10.3010300	20000.000	0	5773.503	9.7614294	
1	5002.519	9.6991837	2187	10.3008113	19989.929	1	5777.382	9.7617311	2917
2	5005.038	9.6995973	2186	10.3005927	19979.870	2	5781.262	9.7620227	2916
3	5007.556	9.6999628	2185	10.3003742	19969.823	3	5785.144	9.7623142	2915
4	5010.074	9.7003281	2183	10.3001559	19959.788	4	5789.027	9.7626056	2914
5	5012.591	9.7006932	2181	10.2999378	19949.764	5	5792.911	9.7628969	2913
6	5015.108	9.7010582	2180	10.2997198	19939.753	6	5796.797	9.7631881	2912
7	5017.624	9.7014231	2179	10.2995019	19929.752	7	5800.684	9.7634792	2911
8	5020.140	9.7017881	2177	10.2992842	19919.764	8	5804.573	9.7637702	2910
9	5022.655	9.7021534	2176	10.2990666	19909.787	9	5808.462	9.7640612	2910
10	5025.170	9.7025189	2174	10.2988492	19899.822	10	5812.353	9.7643520	2908
11	5027.685	9.7028841	2173	10.2986319	19889.869	11	5816.245	9.7646437	2907
12	5030.199	9.7032492	2171	10.2984148	19879.927	12	5820.139	9.7649353	2907
13	5032.713	9.7036142	2170	10.2981978	19869.997	13	5824.034	9.7652269	2905
14	5035.227	9.7039790	2168	10.2979810	19860.080	14	5827.930	9.7655184	2904
15	5037.740	9.7043437	2167	10.2977643	19850.172	15	5831.828	9.7658097	2904
16	5040.253	9.7047083	2166	10.2975477	19840.276	16	5835.727	9.7660999	2902
17	5042.765	9.7050728	2164	10.2973313	19830.393	17	5839.627	9.7663901	2902
18	5045.277	9.7054374	2162	10.2971151	19820.520	18	5843.528	9.7666751	2900
19	5047.788	9.7058019	2161	10.2968989	19810.659	19	5847.431	9.7669651	2900
20	5050.299	9.7061663	2159	10.2966830	19800.810	20	5851.335	9.7672550	2898
21	5052.809	9.7065307	2159	10.2964671	19790.972	21	5855.241	9.7675448	2896
22	5055.319	9.7068950	2157	10.2962514	19781.146	22	5859.148	9.7678344	2896
23	5057.828	9.7072593	2155	10.2960359	19771.331	23	5863.056	9.7681240	2895
24	5060.337	9.7076235	2154	10.2958205	19761.527	24	5866.965	9.7684135	2895
25	5062.846	9.7079877	2152	10.2956053	19751.735	25	5870.876	9.7687029	2893
26	5065.355	9.7083519	2152	10.2953901	19741.954	26	5874.788	9.7689922	2892
27	5067.863	9.7087160	2149	10.2951752	19732.185	27	5878.702	9.7692814	2891
28	5070.370	9.7090801	2149	10.2949603	19722.426	28	5882.617	9.7695705	2891
29	5072.877	9.7094441	2148	10.2947457	19712.680	29	5886.533	9.7698596	2889
30	5075.384	9.7098082	2146	10.2945311	19702.944	30	5890.450	9.7701485	2888
31	5077.890	9.7101722	2144	10.2943167	19693.220	31	5894.369	9.7704373	2888
32	5080.396	9.7105362	2142	10.2941025	19683.507	32	5898.289	9.7707261	2886
33	5082.901	9.7109001	2141	10.2938884	19673.805	33	5902.211	9.7710147	2886
34	5085.406	9.7112640	2140	10.2936744	19664.114	34	5906.134	9.7713033	2884
35	5087.910	9.7116279	2138	10.2934606	19654.434	35	5910.058	9.7715917	2884
36	5090.414	9.7119917	2137	10.2932469	19644.767	36	5913.983	9.7718801	2883
37	5092.918	9.7123555	2136	10.2930333	19635.110	37	5917.910	9.7721684	2882
38	5095.421	9.7127192	2134	10.2928199	19625.464	38	5921.839	9.7724566	2881
39	5097.924	9.7130829	2132	10.2926067	19615.829	39	5925.768	9.7727447	2880
40	5100.426	9.7134466	2131	10.2923936	19606.206	40	5929.699	9.7730327	2879
41	5102.928	9.7138102	2130	10.2921806	19596.593	41	5933.632	9.7733205	2878
42	5105.429	9.7141738	2129	10.2919677	19586.992	42	5937.566	9.7736084	2877
43	5107.930	9.7145374	2127	10.2917550	19577.401	43	5941.501	9.7738961	2877
44	5110.431	9.7149009	2125	10.2915425	19567.822	44	5945.437	9.7741838	2875
45	5112.931	9.7152644	2124	10.2913301	19558.254	45	5949.375	9.7744713	2875
46	5115.431	9.7156279	2123	10.2911178	19548.697	46	5953.314	9.7747588	2874
47	5117.930	9.7159914	2121	10.2909057	19539.150	47	5957.254	9.7750462	2873
48	5120.429	9.7163549	2120	10.2906937	19529.612	48	5961.196	9.7753334	2872
49	5122.927	9.7167183	2119	10.2904818	19520.091	49	5965.140	9.7756206	2871
50	5125.425	9.7170817	2117	10.2902701	19510.577	50	5969.084	9.7759077	2870
51	5127.922	9.7174450	2116	10.2900585	19501.075	51	5973.030	9.7761947	2869
52	5130.419	9.7178083	2114	10.2898471	19491.583	52	5976.978	9.7764816	2868
53	5132.916	9.7181716	2113	10.2896358	19482.102	53	5980.927	9.7767685	2867
54	5135.412	9.7185349	2111	10.2894247	19472.632	54	5984.877	9.7770552	2866
55	5137.908	9.7188981	2110	10.2892137	19463.173	55	5988.828	9.7773418	2865
56	5140.404	9.7192613	2109	10.2890028	19453.725	56	5992.781	9.7776284	2864
57	5142.899	9.7196245	2108	10.2887920	19444.288	57	5996.735	9.7779149	2863
58	5145.393	9.7199877	2106	10.2885814	19434.861	58	6000.691	9.7782012	2862
59	5147.887	9.7203509	2104	10.2883710	19425.445	59	6004.648	9.7784875	2861
60	5150.381	9.7207141	2103	10.2881607	19416.040	60	6008.606	9.7787737	2860
			Diff.	L. Sec.	N. Sec.				Diff.

			30	N. Sec.	L. Sec.	D			
10.238.600	17320.506	0		11547.005	10.0624694	9.9375306	3660.254	0	
10.232.258	17308.870	59	1	11548.945	10.0625423	9.9374577	1658.799	59	
10.237.977	17297.206	58	2	11550.887	10.0626153	9.9373847	3657.343	58	
10.236.658	17285.054	57	3	11552.830	10.0626884	9.9373116	5555.08	57	
10.237.944	17274.000	56	4	11554.771	10.0627615	9.9372385	8654.430	56	
10.237.1034	17262.477	55	5	11556.722	10.0628347	9.9371613	8642.972	55	
10.236.8119	17250.935	54	6	11558.670	10.0629079	9.9370921	8651.514	54	
10.236.5206	17239.345	53	7	11560.621	10.0629811	9.9370189	8650.055	53	
10.230.2290	17227.797	52	8	11562.571	10.0630544	9.9369456	8648.595	52	
10.235.9388	17216.261	51	9	11564.525	10.0631278	9.9368722	8647.134	51	
10.235.6480	17204.731	50	10	11566.480	10.0632011	9.9367988	8645.673	50	
10.233.573	17193.224	49	11	11568.430	10.0632746	9.9367254	8644.211	49	
10.235.0000	17181.720	48	12	11570.394	10.0633481	9.9366519	8642.748	48	
10.2347.6	17170.230	47	13	11572.354	10.0634217	9.9365783	8641.284	47	
10.2344.857	17158.751	46	14	11574.315	10.0634953	9.9365047	8639.820	46	
10.2341.953	17147.283	45	15	11576.276	10.0635689	9.9364311	8638.355	45	
10.233.9051	17135.827	44	16	11578.243	10.0636426	9.9363574	8636.889	44	
10.233.0149	17124.382	43	17	11580.209	10.0637164	9.9362836	8635.423	43	
10.233.3249	17112.945	42	18	11582.177	10.0637902	9.9362098	8633.956	42	
10.233.0349	17101.527	41	19	11584.144	10.0638640	9.9361360	8632.488	41	
10.232.7450	17090.110	40	20	11586.110	10.0639379	9.9360621	8631.019	40	
10.232.4552	17078.717	39	21	11588.091	10.0640119	9.9359881	8629.549	39	
10.232.1656	17067.323	38	22	11590.065	10.0640859	9.9359141	8628.079	38	
10.231.6760	17055.953	37	23	11592.041	10.0641599	9.9358401	8626.608	37	
10.231.5865	17044.587	36	24	11594.019	10.0642340	9.9357660	8625.136	36	
10.231.2971	17033.233	35	25	11595.999	10.0643082	9.9356918	8623.664	35	
10.231.0078	17021.891	34	26	11597.980	10.0643823	9.9356177	8622.191	34	
10.230.7186	17010.552	33	27	11599.963	10.0644566	9.9355434	8620.717	33	
10.230.4295	16999.230	32	28	11601.947	10.0645309	9.9354691	8619.243	32	
10.230.144	16987.923	31	29	11603.933	10.0646052	9.9353948	8617.768	31	
10.229.8515	16976.631	30	30	11605.921	10.0646796	9.9353204	8616.292	30	
10.229.5627	16965.344	29	31	11607.911	10.0647541	9.9352459	8614.815	29	
10.229.2739	16954.069	28	32	11609.902	10.0648285	9.9351715	8613.337	28	
10.228.9833	16942.803	27	33	11611.895	10.0649031	9.9350969	8611.859	27	
10.228.6967	16931.550	26	34	11613.889	10.0649777	9.9350223	8610.380	26	
10.228.4083	16920.308	25	35	11615.885	10.0650523	9.9349477	8608.900	25	
10.228.1199	16909.077	24	36	11617.883	10.0651270	9.9348730	8607.420	24	
10.227.8316	16897.856	23	37	11619.884	10.0652017	9.9347983	8605.939	23	
10.227.5434	16886.647	22	38	11621.883	10.0652765	9.9347235	8604.457	22	
10.227.2551	16875.449	21	39	11623.880	10.0653514	9.9346486	8602.974	21	
10.226.9673	16864.261	20	40	11625.891	10.0654262	9.9345738	8601.491	20	
10.226.6794	16853.085	19	41	11627.897	10.0655012	9.9344983	8600.007	19	
10.226.3910	16841.919	18	42	11629.905	10.0655762	9.9344233	8598.522	18	
10.226.1039	16830.765	17	43	11631.914	10.0656512	9.9343488	8597.037	17	
10.225.8162	16819.621	16	44	11633.925	10.0657263	9.9342737	8595.551	16	
10.225.5287	16808.489	15	45	11635.938	10.0658014	9.9341986	8594.064	15	
10.225.2412	16797.367	14	46	11637.953	10.0658766	9.9341234	8592.576	14	
10.224.9538	16786.256	13	47	11639.969	10.0659518	9.9340482	8591.088	13	
10.224.6660	16775.150	12	48	11641.987	10.0660271	9.9339729	8589.599	12	
10.224.3794	16764.067	11	49	11644.001	10.0661024	9.9338976	8588.109	11	
10.224.0923	16752.988	10	50	11646.028	10.0661778	9.9338222	8586.618	10	
10.223.8053	16741.921	9	51	11648.051	10.0662533	9.9337467	8585.127	9	
10.223.5184	16730.854	8	52	11650.076	10.0663287	9.9336713	8583.635	8	
10.223.2315	16719.818	7	53	11652.102	10.0664043	9.9335957	8582.142	7	
10.222.9448	16708.782	6	54	11654.130	10.0664799	9.9335201	8580.649	6	
10.222.6582	16697.758	5	55	11656.160	10.0665555	9.9334445	8579.155	5	
10.222.3716	16686.741	4	56	11658.191	10.0666312	9.9333683	8577.660	4	
10.222.0851	16675.741	3	57	11660.224	10.0667069	9.9332931	8576.164	3	
10.221.7988	16664.748	2	58	11662.259	10.0667827	9.9332173	8574.668	2	
10.221.5125	16653.766	1	59	11664.296	10.0668585	9.9331415	8573.171	1	
10.221.2263	16642.795	0	60	11666.334	10.0669344	9.9330656	8571.673	0	
L. Tan.	N. Tan	59				D.	L. Sin.	N. Sin	59

31 N. Sin.	L. Sin.	Diff.			31 N. Tan.	L. Tan.	Diff.
0 5150.381	9.7118393	2102	10.2881607	19416.040	60	0 6008.606	9.7787737
1 5152.874	9.7120495	2101	10.2879505	19406.646	59	1 6012.566	9.7790599
2 5155.367	9.7122596	2101	10.2877404	19397.262	58	2 6016.527	9.7793459
3 5157.859	9.7124695	2099	10.2875305	19387.889	57	3 6020.490	9.7796318
4 5160.351	9.7126792	2097	10.2873208	19378.527	56	4 6024.454	9.7799177
5 5162.842	9.7128889	2097	10.2871111	19369.176	55	5 6028.419	9.7802034
6 5165.333	9.7130983	2094	10.2869017	19359.835	54	6 6032.386	9.7804891
7 5167.824	9.7133077	2094	10.2866923	19350.505	53	7 6036.354	9.7807747
8 5170.314	9.7135169	2092	10.2864831	19341.185	52	8 6040.323	9.7810604
9 5172.804	9.7137260	2091	10.2862740	19331.876	51	9 6044.294	9.7813461
10 5175.295	9.7139349	2089	10.2860651	19322.578	50	10 6048.266	9.7816309
11 5177.782	9.7141437	2088	10.2858563	19313.290	49	11 6052.240	9.7819161
12 5180.270	9.7143524	2087	10.2856476	19304.013	48	12 6056.215	9.7822013
13 5182.758	9.7145609	2085	10.2854391	19294.746	47	13 6060.192	9.7824864
14 5185.246	9.7147693	2084	10.2852307	19285.490	46	14 6064.170	9.7827715
15 5187.733	9.7149776	2083	10.2850224	19276.244	45	15 6068.149	9.7830566
16 5190.219	9.7151857	2081	10.2848143	19267.009	44	16 6072.130	9.7833418
17 5192.705	9.7153937	2080	10.2846063	19257.784	43	17 6076.112	9.7836269
18 5195.191	9.7156015	2077	10.2843985	19248.570	42	18 6080.095	9.7839119
19 5197.676	9.7158092	2076	10.2841908	19239.366	41	19 6084.080	9.7841969
20 5200.161	9.7160168	2075	10.2839832	19230.173	40	20 6088.067	9.7844819
21 5202.646	9.7162243	2073	10.2837757	19220.990	39	21 6092.054	9.7847669
22 5205.130	9.7164316	2071	10.2835684	19211.817	38	22 6096.043	9.7850519
23 5207.613	9.7166387	2071	10.2833613	19202.655	37	23 6100.034	9.7853369
24 5210.096	9.7168458	2071	10.2831542	19193.503	36	24 6104.026	9.7856219
25 5212.579	9.7170526	2068	10.2829474	19184.362	35	25 6108.019	9.7859069
26 5215.061	9.7172594	2066	10.2827406	19175.230	34	26 6112.014	9.7861919
27 5217.543	9.7174660	2065	10.2825340	19166.109	33	27 6116.011	9.7864769
28 5220.024	9.7176725	2065	10.2823275	19156.999	32	28 6120.008	9.7867619
29 5222.505	9.7178789	2064	10.2821211	19147.899	31	29 6124.007	9.7870469
30 5224.986	9.7180851	2062	10.2819149	19138.809	30	30 6128.008	9.7873319
31 5227.466	9.7182912	2061	10.2817088	19129.729	29	31 6132.010	9.7876169
32 5229.945	9.7184971	2059	10.2815029	19120.659	28	32 6136.013	9.7879019
33 5232.424	9.7187030	2056	10.2812970	19111.600	27	33 6140.018	9.7881869
34 5234.903	9.7189086	2056	10.2810914	19102.551	26	34 6144.024	9.7884719
35 5237.381	9.7191142	2054	10.2808858	19093.512	25	35 6148.032	9.7887569
36 5239.859	9.7193196	2054	10.2806804	19084.483	24	36 6152.041	9.7890419
37 5242.336	9.7195249	2053	10.2804751	19075.464	23	37 6156.052	9.7893269
38 5244.813	9.7197300	2051	10.2802700	19066.456	22	38 6160.064	9.7896119
39 5247.290	9.7199350	2049	10.2800650	19057.457	21	39 6164.077	9.7898969
40 5249.766	9.7201399	2048	10.2798601	19048.469	20	40 6168.092	9.7901819
41 5252.241	9.7203447	2046	10.2796553	19039.491	19	41 6172.108	9.7904669
42 5254.716	9.7205493	2045	10.2794507	19030.522	18	42 6176.126	9.7907519
43 5257.191	9.7207538	2045	10.2792462	19021.564	17	43 6180.145	9.7910369
44 5259.665	9.7209581	2043	10.2790419	19012.616	16	44 6184.166	9.7913219
45 5262.139	9.7211623	2042	10.2788377	19003.678	15	45 6188.188	9.7916069
46 5264.612	9.7213664	2041	10.2786336	18994.750	14	46 6192.211	9.7918919
47 5267.085	9.7215704	2040	10.2784296	18985.832	13	47 6196.236	9.7921769
48 5269.558	9.7217742	2038	10.2782258	18976.924	12	48 6200.263	9.7924619
49 5272.030	9.7219779	2037	10.2780221	18968.026	11	49 6204.291	9.7927469
50 5274.502	9.7221814	2035	10.2778186	18959.138	10	50 6208.320	9.7930319
51 5276.973	9.7223848	2034	10.2776152	18950.259	9	51 6212.351	9.7933169
52 5279.444	9.7225881	2033	10.2774119	18941.391	8	52 6216.383	9.7936019
53 5281.914	9.7227913	2031	10.2772087	18932.532	7	53 6220.417	9.7938869
54 5284.384	9.7229943	2030	10.2770057	18923.684	6	54 6224.452	9.7941719
55 5286.853	9.7231972	2029	10.2768028	18914.845	5	55 6228.488	9.7944569
56 5289.322	9.7234000	2026	10.2766000	18906.016	4	56 6232.526	9.7947419
57 5291.790	9.7236026	2025	10.2763974	18897.197	3	57 6236.566	9.7950269
58 5294.258	9.7238051	2024	10.2761949	18888.388	2	58 6240.607	9.7953119
59 5296.726	9.7240075	2022	10.2759925	18879.589	1	59 6244.650	9.7955969
60 5299.193	9.7242097	2022	10.2757903	18870.799	0	60 6248.694	9.7958819
		Diff.	L. Sec.	N. Sec.	58		

		31. N. Sec.	L. Sec.	D.	
10.2212263	16642.795	60	0 11666.334	10.0669344	759 7.9330656 8571.673 60
10.2209401	16631.834	59	1 11668.374	10.0670103	759 7.9329897 8570.174 59
10.2206541	16620.834	58	2 11670.416	10.0670863	760 7.9329131 8568.675 58
10.2203682	16609.945	57	3 11672.459	10.0671624	761 7.9328376 8567.175 57
10.2200823	16599.016	56	4 11674.504	10.0672384	760 7.9327616 8565.674 56
10.2197966	16588.097	55	5 11676.551	10.0673140	762 7.9326854 8564.173 55
10.2195109	16577.189	54	6 11678.599	10.0673908	762 7.9326092 8562.671 54
10.21 2253	16566.292	53	7 11680.649	10.0674670	762 7.9325330 8561.168 53
10.2189398	16555.405	52	8 11682.701	10.0675433	763 7.9324567 8559.664 52
10.2186544	16544.529	51	9 11684.755	10.0676196	763 7.9323804 8558.160 51
10.2183691	16533.666	50	10 11686.800	10.0676960	764 7.9323040 8556.655 50
10.2180838	16522.808	49	11 11688.867	10.0677724	764 7.9322276 8555.149 49
10.2177987	16511.963	48	12 11690.926	10.0678489	765 7.9321511 8553.642 48
10.2175136	16501.128	47	13 11692.986	10.0679254	765 7.9320746 8552.135 47
10.2172287	16490.304	46	14 11695.048	10.0680020	766 7.9319980 8550.627 46
10.2169438	16479.490	45	15 11697.112	10.0680787	767 7.9319213 8549.118 45
10.2166590	16468.680	44	16 11699.178	10.0681553	767 7.9318447 8547.609 44
10.2163742	16457.893	43	17 11701.245	10.0682321	768 7.9317672 8546.099 43
10.2160890	16447.114	42	18 11703.314	10.0683089	768 7.9316911 8544.588 42
10.2158051	16436.338	41	19 11705.385	10.0683857	769 7.9316143 8543.076 41
10.2155206	16425.576	40	20 11707.457	10.0684626	769 7.9315374 8541.564 40
10.2152362	16414.824	39	21 11709.531	10.0685395	769 7.9314605 8540.051 39
10.2149519	16404.082	38	22 11711.607	10.0686165	770 7.9313835 8538.537 38
10.2146677	16393.354	37	23 11713.685	10.0686935	770 7.9313065 8537.023 37
10.2143836	16382.633	36	24 11715.764	10.0687700	771 7.9312294 8535.508 36
10.2140990	16371.911	35	25 11717.845	10.0688478	772 7.9311522 8533.992 35
10.2138156	16361.211	34	26 11719.928	10.0689250	772 7.9310750 8532.475 34
10.2135318	16350.526	33	27 11722.013	10.0690022	772 7.9309978 8530.958 33
10.2132480	16339.847	32	28 11724.097	10.0690795	773 7.9309205 8529.440 32
10.2129643	16329.177	31	29 11726.187	10.0691568	773 7.9308432 8527.921 31
10.2126807	16318.517	30	30 11728.277	10.0692342	774 7.9307658 8526.402 30
10.2123972	16307.867	29	31 11730.369	10.0693117	775 7.9306883 8524.881 29
10.2121137	16297.227	28	32 11732.462	10.0693891	774 7.9306109 8523.360 28
10.2118304	16286.597	27	33 11734.557	10.0694667	774 7.9305333 8521.838 27
10.2115471	16275.977	26	34 11736.654	10.0695443	776 7.9304557 8520.316 26
10.2112639	16265.368	25	35 11738.752	10.0696219	776 7.9303781 8518.793 25
10.2109808	16254.768	24	36 11740.852	10.0696996	777 7.9303004 8517.269 24
10.2106977	16244.178	23	37 11742.954	10.0697774	778 7.9302226 8515.744 23
10.2104148	16233.599	22	38 11745.058	10.0698552	778 7.9301448 8514.219 22
10.2101319	16223.029	21	39 11747.164	10.0699330	779 7.9300670 8512.693 21
10.2098492	16212.469	20	40 11749.271	10.0700109	779 7.9299891 8511.166 20
10.2095665	16201.920	19	41 11751.380	10.0700888	780 7.9299112 8509.639 19
10.2092839	16191.380	18	42 11753.491	10.0701668	780 7.9298332 8508.111 18
10.2090013	16180.850	17	43 11755.603	10.0702449	781 7.9297551 8506.582 17
10.2087189	16170.330	16	44 11757.717	10.0703230	781 7.9296770 8505.052 16
10.2084365	16159.820	15	45 11759.833	10.0704011	781 7.9295989 8503.522 15
10.2081542	16149.320	14	46 11761.951	10.0704793	782 7.9295207 8501.991 14
10.2078720	16138.829	13	47 11764.070	10.0705576	783 7.9294424 8500.459 13
10.2075899	16128.349	12	48 11766.191	10.0706359	783 7.9293641 8498.927 12
10.2073079	16117.878	11	49 11768.314	10.0707143	784 7.9292857 8497.394 11
10.2070259	16107.417	10	50 11770.439	10.0707927	784 7.9292073 8495.860 10
10.2067440	16096.966	9	51 11772.566	10.0708711	785 7.9291289 8494.325 9
10.2064622	16086.525	8	52 11774.694	10.0709495	785 7.9290504 8492.790 8
10.2061805	16076.094	7	53 11776.824	10.0710281	786 7.9289718 8491.254 7
10.2058989	16065.672	6	54 11778.956	10.0711068	786 7.9288932 8489.717 6
10.2056173	16055.260	5	55 11781.090	10.0711855	787 7.9288145 8488.179 5
10.2053359	16044.858	4	56 11783.225	10.0712642	787 7.9287358 8486.641 4
10.2050545	16034.465	3	57 11785.362	10.0713429	787 7.9286571 8485.102 3
10.2047732	16024.082	2	58 11787.501	10.0714217	788 7.9285783 8483.562 2
10.2044919	16013.709	1	59 11789.642	10.0715006	789 7.9284994 8482.022 1
10.2042108	16003.345	0	60 11791.784	10.0715795	789 7.9284205 8480.481 0
L. Tan.	N. Tan.	58		D.	L. Sin. N. Sin.

32 N. Sin.	L. Sin.	Diff.			32 N. Tan.	L. Tan.	Diff.
1 5299.193	9.7242097	10.2757903	18870.725	60	1 5248.694	9.7957822	2811
2 5301.659	9.7244113	10.2755882	18862.015	59	2 5252.739	9.7960703	2810
3 5304.125	9.7246130	10.2753862	18853.249	58	3 5256.786	9.7963513	2809
4 5306.591	9.7248150	10.2751844	18844.489	57	4 5260.834	9.7966324	2808
5 5309.056	9.7250174	10.2749820	18835.730	56	5 5264.884	9.7969130	2807
6 5311.522	9.7252182	10.2747811	18826.977	55	6 5268.935	9.7971936	2806
7 5313.986	9.7254210	10.2745796	18818.226	54	7 5272.988	9.7974745	2805
8 5316.450	9.7256217	10.2743773	18809.545	53	8 5277.042	9.7977551	2804
9 5318.913	9.7258223	10.2741771	18800.833	52	9 5281.098	9.7980359	2803
10 5321.376	9.7260240	10.2739760	18792.131	51	10 5285.156	9.7983160	2802
11 5323.839	9.7262248	10.2737751	18783.438	50	11 5289.215	9.7985964	2801
12 5326.301	9.7264257	10.2735743	18774.755	49	12 5293.273	9.7988767	2800
13 5328.763	9.7266264	10.2733739	18766.082	48	13 5297.326	9.7991569	2799
14 5331.224	9.7268269	10.2731731	18757.418	47	14 5301.399	9.7994370	2798
15 5333.685	9.7270273	10.2729727	18748.764	46	15 5305.464	9.7997170	2797
16 5336.148	9.7272276	10.2727724	18740.120	45	16 5309.530	9.7999969	2796
17 5338.609	9.7274278	10.2725722	18731.485	44	17 5313.598	9.8002767	2795
18 5341.069	9.7276278	10.2723722	18722.859	43	18 5317.667	9.8005567	2794
19 5343.523	9.7278277	10.2721723	18714.243	42	19 5321.738	9.8008365	2793
20 5345.982	9.7280275	10.2719725	18705.637	41	20 5325.810	9.8011161	2792
21 5348.440	9.7282274	10.2717729	18697.040	40	21 5329.883	9.8013957	2791
22 5350.898	9.7284270	10.2715733	18688.453	39	22 5333.958	9.8016752	2790
23 5353.355	9.7286266	10.2713740	18679.875	38	23 5338.035	9.8019546	2789
24 5355.812	9.7288253	10.2711747	18671.306	37	24 5342.113	9.8022340	2788
25 5358.268	9.7290244	10.2709756	18662.747	36	25 5346.193	9.8025133	2787
26 5360.724	9.7292234	10.2707766	18654.197	35	26 5350.274	9.8027925	2786
27 5363.179	9.7294223	10.2705777	18645.657	34	27 5354.357	9.8030716	2785
28 5365.634	9.7296211	10.2703789	18637.126	33	28 5358.441	9.8033506	2784
29 5368.088	9.7298197	10.2701803	18628.605	32	29 5362.527	9.8036296	2783
30 5370.542	9.7300182	10.2699818	18620.093	31	30 5366.614	9.8039085	2782
31 5372.996	9.7302165	10.2697835	18611.590	30	31 5370.703	9.8041873	2781
32 5375.449	9.7304148	10.2695852	18603.096	29	32 5374.793	9.8044661	2780
33 5377.902	9.7306129	10.2693871	18594.612	28	33 5378.885	9.8047447	2779
34 5380.354	9.7308109	10.2691891	18586.138	27	34 5382.978	9.8050233	2778
35 5382.806	9.7310087	10.2689913	18577.672	26	35 5387.073	9.8053019	2777
36 5385.257	9.7312064	10.2687936	18569.216	25	36 5391.169	9.8055805	2776
37 5387.708	9.7314040	10.2685960	18560.769	24	37 5395.267	9.8058591	2775
38 5390.158	9.7316015	10.2683985	18552.331	23	38 5399.366	9.8061376	2774
39 5392.608	9.7317989	10.2682011	18543.903	22	39 5403.467	9.8064161	2773
40 5395.058	9.7319961	10.2680039	18535.483	21	40 5407.569	9.8066945	2772
41 5397.507	9.7321932	10.2678068	18527.073	20	41 5411.673	9.8069729	2771
42 5400.005	9.7323902	10.2676093	18518.672	19	42 5415.779	9.8072514	2770
43 5402.403	9.7325870	10.2674130	18510.281	18	43 5419.886	9.8075297	2769
44 5404.851	9.7327837	10.2672163	18501.898	17	44 5423.995	9.8078081	2768
45 5407.298	9.7329803	10.2670197	18493.525	16	45 5428.105	9.8080865	2767
46 5409.745	9.7331768	10.2668232	18485.161	15	46 5432.216	9.8083649	2766
47 5412.191	9.7333733	10.2666269	18476.805	14	47 5436.329	9.8086433	2765
48 5414.637	9.7335693	10.2664307	18468.459	13	48 5440.444	9.8089217	2764
49 5417.082	9.7337654	10.2662346	18460.123	12	49 5444.560	9.8091999	2763
50 5419.527	9.7339614	10.2660386	18451.795	11	50 5448.678	9.8094780	2762
51 5421.971	9.7341572	10.2658428	18443.476	10	51 5452.797	9.8097561	2761
52 5424.415	9.7343529	10.2656471	18435.166	9	52 5456.918	9.8100342	2760
53 5426.859	9.7345485	10.2654515	18426.866	8	53 5461.041	9.8103123	2759
54 5429.302	9.7347440	10.2652560	18418.574	7	54 5465.165	9.8105904	2758
55 5431.744	9.7349393	10.2650607	18410.292	6	55 5469.290	9.8108685	2757
56 5434.186	9.7351347	10.2648655	18402.018	5	56 5473.417	9.8111466	2756
57 5436.628	9.7353299	10.2646704	18393.753	4	57 5477.546	9.8114247	2755
58 5439.069	9.7355246	10.2644754	18385.498	3	58 5481.676	9.8117028	2754
59 5441.510	9.7357192	10.2642805	18377.251	2	59 5485.808	9.8119809	2753
60 5443.950	9.7359142	10.2640858	18369.013	1	60 5489.941	9.8122590	2752
61 5446.390	9.7361088	10.2638912	18360.784	0	61 5494.076	9.8125371	2751
	Diff.	L. Sec.	N. Sec.	57		Diff.	

		32	N. Sec.	L. Sec.	D.		
10.2042108	16003.345	60	11791.784	10.0715791	790	9.9284205	3480.481
102 03227	15992.991	59	11793.928	10.0716585	790	9.9283415	3478.937
10.2036487	15982.047	58	211796 074	10.0717375	790	9.9282625	3477.326
10.2033678	15972.312	57	311798.222	10.0718166	791	9.9281834	3475.853
10.2030370	15961.937	56	411800.372	10.0718957	791	9.9281045	3474.309
10.2028052	15951.672	55	511801.523	10.0719747	792	9.9280251	3472.794
10.2025255	15941.366	54	611804.676	10.0720541	792	9.9279457	3471.219
10.2022449	15931.070	53	711806.831	10.0721334	793	9.9278666	3469.673
10.2019644	15920.783	52	811808.986	10.0722127	793	9.9277873	3468.126
10.2016840	15910.505	51	911811.147	10.0722917	794	9.9277079	3466.578
10.2014031	15900.238	50	1011813.307	10.0723705	794	9.9276285	3465.030
10.2011233	15889.979	49	1111815.469	10.0724510	795	9.9275491	3463.481
10.2008431	15879.733	48	1211817.633	10.0725305	795	9.9274695	3461.931
10.2005630	15869.491	47	1311819.799	10.0726101	796	9.9273897	3460.381
10.2002830	15859.251	46	1411821.966	10.0726897	796	9.9273103	3458.830
10.2000030	15849.041	45	1511824.135	10.0727694	797	9.9272306	3457.279
10.1997231	15838.830	44	1611826.300	10.0728491	797	9.9271509	3455.729
10.1994433	15828.628	43	1711828.479	10.0729287	798	9.9270711	3454.172
10.1991635	15818.436	42	1811830.654	10.0730083	798	9.9269913	3452.618
10.1988839	15808.253	41	1911832.830	10.0730880	799	9.9269114	3451.063
10.1986043	15797.979	40	2011835.008	10.0731686	800	9.9268314	3449.508
10.1983248	15787.915	39	2111837.188	10.0732486	800	9.9267514	3447.952
10.1980454	15777.766	38	2211839.376	10.0733286	801	9.9266714	3446.397
10.1977660	15767.615	37	2311841.554	10.0734087	801	9.9265913	3444.843
10.1974867	15757.479	36	2411843.740	10.0734888	802	9.9265112	3443.289
10.1972075	15747.352	35	2511845.927	10.0735690	803	9.9264310	3441.730
10.1969284	15737.234	34	2611848.116	10.0736493	803	9.9263507	3440.166
10.1966494	15727.126	33	2711850.307	10.0737297	803	9.9262704	3438.609
10.1963703	15717.026	32	2811852.500	10.0738099	805	9.9261901	3437.053
10.1960915	15706.936	31	2911854.694	10.0738902	805	9.9261098	3435.497
10.1958127	15696.856	30	3011856.891	10.0739708	804	9.9260292	3433.941
10.1955339	15686.784	29	3111859.089	10.0740513	805	9.9259487	3432.385
10.1952553	15676.722	28	3211861.289	10.0741319	805	9.9258681	3430.827
10.1949767	15666.659	27	3311863.491	10.0742125	806	9.9257875	3429.269
10.1946981	15656.625	26	3411865.695	10.0742931	806	9.9257069	3427.712
10.1944157	15646.590	25	3511867.900	10.0743737	807	9.9256261	3426.154
10.1941413	15636.564	24	3611870.107	10.0744546	808	9.9255454	3424.594
10.1938630	15626.548	23	3711872.316	10.0745354	808	9.9254646	3423.036
10.1935848	15616.540	22	3811874.527	10.0746163	809	9.9253837	3421.478
10.1933067	15606.542	21	3911876.740	10.0746972	810	9.9253028	3419.919
10.1930286	15596.552	20	4011878.955	10.0747782	810	9.9252218	3418.359
10.1927506	15586.572	19	4111881.171	10.0748592	811	9.9251403	3416.799
10.1924727	15576.601	18	4211883.389	10.0749403	811	9.9250597	3415.238
10.1921948	15566.639	17	4311885.609	10.0750214	812	9.9249786	3413.676
10.1919171	15556.685	16	4411887.831	10.0751026	813	9.9248974	3412.113
10.1916394	15546.741	15	4511890.055	10.0751839	812	9.9248161	3410.550
10.1913617	15536.806	14	4611892.281	10.0752651	814	9.9247349	3408.986
10.1910842	15526.880	13	4711894.508	10.0753465	814	9.9246535	3407.421
10.1908067	15516.963	12	4811896.737	10.0754279	814	9.9245722	3405.856
10.1905293	15507.054	11	4911898.968	10.0755093	815	9.9244907	3404.290
10.1902520	15497.155	10	5011901.201	10.0755908	815	9.9244092	3402.723
10.1899747	15487.264	9	5111903.436	10.0756722	816	9.9243277	3401.155
10.1896975	15477.383	8	5211905.673	10.0757539	817	9.9242461	3399.587
10.1894204	15467.510	7	5311907.912	10.0758355	817	9.9241644	3398.019
10.1891434	15457.646	6	5411910.154	10.0759173	817	9.9240827	3396.450
10.1888664	15447.792	5	5511912.394	10.0759990	817	9.9240010	3394.881
10.1885895	15437.946	4	5611914.633	10.0760809	818	9.9239191	3393.311
10.1883127	15428.108	3	5711916.881	10.0761627	818	9.9238373	3391.741
10.1880359	15418.280	2	5811919.131	10.0762446	819	9.9237554	3390.171
10.1877592	15408.460	1	5911921.386	10.0763266	820	9.9236737	3388.601
10.1874826	15398.650	0	6011923.633	10.0764086	820	9.9235914	3387.030
L. Tang.	N. Tan.	57				L. Sin.	N. Sin.

33	N. Sin.	L. Sin.	Diff.			33	N. Tan.	L. Tan.	Diff.
35446.390	7.7361088	1944	10.2638912	18360.78460	06424.076	3.8125174	2765		
15448.830	7.7363032	1944	10.2636968	18352.56459	16498.212	3.8127935	2765		
25451.269	7.7364976	1944	10.2635024	18344.35358	26502.350	3.8130704	2765		
35453.707	7.7366919	1942	10.2633082	18336.15157	36505.490	3.8133468	2765		
45456.145	7.7368859	1941	10.2631141	18327.95856	46510.631	3.8136231	2765		
55458.582	7.7370799	1938	10.2629201	18319.77455	56514.774	3.8138993	2765		
65461.020	7.7372737	1938	10.2627260	18311.59954	66518.918	3.8141755	2765		
75463.456	7.7374675	1938	10.2625325	18303.43253	76523.064	3.8144516	2765		
85465.89	7.7376611	1936	10.2623389	18295.27452	86527.211	3.8147277	2765		
95468.32	7.7378546	1933	10.2621454	18287.12551	96531.360	3.8150038	2765		
105470.762	7.7380477	1933	10.2619521	18278.98550	106535.511	3.8152799	2765		
115473.198	7.7382412	1933	10.2617588	18270.85449	116539.663	3.8155560	2765		
125475.634	7.7384343	1930	10.2615657	18262.73148	126543.817	3.8158321	2765		
135478.066	7.7386273	1930	10.2613727	18254.61747	136547.972	3.8161082	2765		
145480.499	7.7388201	1928	10.2611799	18246.51246	146552.129	3.8163843	2765		
155482.932	7.7390129	1928	10.2609871	18238.41645	156556.287	3.8166604	2765		
165485.365	7.7392055	1925	10.2607945	18230.32844	166560.447	3.8169365	2765		
175487.797	7.7393980	1924	10.2606020	18222.24943	176564.609	3.8172126	2765		
185490.228	7.7395904	1924	10.2604096	18214.17942	186568.772	3.8174887	2765		
195492.659	7.7397827	1923	10.2602173	18206.11441	196572.937	3.8177648	2765		
205495.090	7.7399748	1921	10.2600252	18198.06540	206577.103	3.8180409	2765		
215497.520	7.7401668	1920	10.2598332	18190.02139	216581.271	3.8183170	2765		
225499.950	7.7403587	1919	10.2596412	18181.98538	226585.441	3.8185931	2765		
235502.379	7.7405505	1918	10.2594495	18173.95837	236589.612	3.8188692	2765		
245504.808	7.7407421	1916	10.2592579	18165.94036	246593.785	3.8191453	2765		
255507.236	7.7409337	1916	10.2590660	18157.93035	256597.959	3.8194214	2765		
265509.664	7.7411251	1914	10.2588742	18149.92934	266602.135	3.8196975	2765		
275512.091	7.7413164	1913	10.2586826	18141.93133	276606.313	3.8199736	2765		
285514.518	7.7415075	1911	10.2584915	18133.93532	286610.492	3.8202497	2765		
295516.944	7.7416986	1911	10.2583014	18125.95731	296614.673	3.8205258	2765		
305519.370	7.7418895	1909	10.2581105	18118.01430	306618.856	3.8208019	2765		
315521.795	7.7420803	1908	10.2579197	18110.05229	316623.040	3.8210780	2765		
325524.220	7.7422710	1907	10.2577290	18102.10228	326627.226	3.8213541	2765		
335526.645	7.7424616	1906	10.2575384	18094.16127	336631.413	3.8216302	2765		
345529.069	7.7426520	1904	10.2573480	18086.22826	346635.602	3.8219063	2765		
355531.492	7.7428423	1903	10.2571577	18078.30425	356639.792	3.8221824	2765		
365533.915	7.7430325	1902	10.2569675	18070.38824	366643.984	3.8224585	2765		
375536.338	7.7432229	1901	10.2567774	18062.48423	376648.178	3.8227346	2765		
385538.762	7.7434132	1900	10.2565874	18054.58822	386652.373	3.8230107	2765		
395541.182	7.7436034	1898	10.2563976	18046.69121	396656.570	3.8232868	2765		
405543.603	7.7437921	1897	10.2562079	18038.80020	406660.769	3.8235629	2765		
415546.024	7.7439817	1896	10.2560183	18030.93519	416664.969	3.8238390	2765		
425548.444	7.7441712	1895	10.2558288	18023.07018	426669.171	3.8241151	2765		
435550.864	7.7443606	1894	10.2556394	18015.21317	436673.375	3.8243912	2765		
445553.282	7.7445498	1892	10.2554502	18007.36516	446677.580	3.8246673	2765		
455555.702	7.7447390	1892	10.2552610	17999.52515	456681.787	3.8249434	2765		
465558.121	7.7449280	1890	10.2550720	17991.69314	466685.995	3.8252195	2765		
475560.539	7.7451169	1889	10.2548831	17983.86913	476690.205	3.8254956	2765		
485562.956	7.7453056	1887	10.2546944	17976.05412	486694.417	3.8257717	2765		
495565.373	7.7454943	1887	10.2545057	17968.24711	496698.630	3.8260478	2765		
505567.790	7.7456828	1885	10.2543172	17960.44810	506702.845	3.8263239	2765		
515570.206	7.7458712	1885	10.2541288	17952.6589	516707.062	3.8265999	2765		
525572.621	7.7460595	1883	10.2539405	17944.8768	526711.280	3.8268760	2765		
535575.036	7.7462477	1882	10.2537523	17937.1027	536715.500	3.8271521	2765		
545577.451	7.7464358	1881	10.2535642	17929.3376	546719.721	3.8274282	2765		
555579.866	7.7466237	1879	10.2533763	17921.5805	556723.944	3.8277043	2765		
565582.277	7.7468115	1878	10.2531885	17913.8314	566728.169	3.8279804	2765		
575584.69	7.7469992	1877	10.2530008	17906.0903	576732.396	3.8282565	2765		
585587.101	7.7471868	1875	10.2528132	17898.3582	586736.624	3.8285326	2765		
595589.51	7.7473743	1875	10.2526257	17890.6331	596740.854	3.8288087	2765		
605591.92	7.7475617	1874	10.2524383	17882.9160	606745.085	3.8290848	2765		
		Diff	L. Sec	N. Sec. 150			Diff		

		33	N. Sec.	L. Sec.	D		
10.1874826	15398.650	60	101923.633	10.0764086	821	9.9235914	8386.700
10.1872061	15388.848	59	11925.886	10.0764907	821	9.9235093	8385.121
10.1869296	15379.055	58	211928.141	10.0765728	821	9.9234272	8383.536
10.1866532	15369.270	57	311930.398	10.0766550	822	9.9233450	8381.950
10.1863769	15359.494	56	411932.657	10.0767372	822	9.9232628	8380.363
10.1861007	15349.727	55	511934.918	10.0768195	823	9.9231805	8378.775
10.1858245	15339.969	54	611937.181	10.0769018	823	9.9230982	8377.187
10.1855484	15330.220	53	711939.446	10.0769842	824	9.9230159	8375.598
10.1852723	15320.479	52	811941.712	10.0770666	824	9.9229334	8374.008
10.1849964	15310.747	51	911943.980	10.0771491	825	9.9228509	8372.418
10.1847205	15301.023	50	1011946.250	10.0772316	825	9.9227684	8370.827
10.1844446	15291.308	49	111948.522	10.0773142	826	9.9226858	8369.235
10.1841689	15281.602	48	1211950.796	10.0773969	827	9.9226032	8367.643
10.1838932	15271.904	47	1311953.072	10.0774795	826	9.9225205	8366.050
10.1836176	15262.215	46	1411955.350	10.0775623	828	9.9224377	8364.456
10.1833420	15252.535	45	1511957.630	10.0776451	828	9.9223549	8362.861
10.1830665	15242.865	44	1611959.911	10.0777279	828	9.9222721	8361.266
10.1827911	15233.200	43	1711962.194	10.0778109	830	9.9221891	8359.670
10.1825158	15223.545	42	1811964.479	10.0778938	829	9.9221062	8358.073
10.1822405	15213.899	41	1911966.766	10.0779768	830	9.9220232	8356.476
10.1819653	15204.261	40	2011969.055	10.0780599	831	9.9219401	8354.878
10.1816902	15194.632	39	2111971.346	10.0781430	831	9.9218570	8353.279
10.1814151	15185.012	38	2211973.639	10.0782262	832	9.9217738	8351.680
10.1811401	15175.400	37	2311975.934	10.0783094	832	9.9216906	8350.080
10.1808652	15165.796	36	2411978.231	10.0783927	833	9.9216073	8348.479
10.1805904	15156.201	35	2511980.529	10.0784760	833	9.9215240	8346.877
10.1803156	15146.614	34	2611982.829	10.0785594	834	9.9214406	8345.275
10.1800408	15137.036	33	2711985.131	10.0786428	834	9.9213572	8343.672
10.1797662	15127.466	32	2811987.435	10.0787263	835	9.9212737	8342.068
10.1794916	15117.905	31	2911989.741	10.0788098	835	9.9211902	8340.463
10.1792171	15108.352	30	3011992.049	10.0788934	836	9.9211066	8338.858
10.1789426	15098.807	29	3111994.359	10.0789771	837	9.9210229	8337.252
10.1786683	15089.271	28	3211996.671	10.0790607	836	9.9209393	8335.645
10.1783940	15079.743	27	3311998.985	10.0791445	838	9.9208555	8334.038
10.1781197	15070.224	26	3412001.301	10.0792283	838	9.9207717	8332.430
10.1778455	15060.713	25	3512003.619	10.0793122	839	9.9206878	8330.821
10.1775714	15051.210	24	3612005.938	10.0793961	839	9.9206045	8329.212
10.1772974	15041.716	23	3712008.259	10.0794800	839	9.9205205	8327.602
10.1770234	15032.230	22	3812010.582	10.0795640	840	9.9204360	8325.991
10.1767495	15022.752	21	3912012.907	10.0796481	841	9.9203519	8324.380
10.1764756	15013.282	20	4012015.234	10.0797322	841	9.9202678	8322.768
10.1762019	15003.820	19	4112017.563	10.0798164	842	9.9201836	8321.155
10.1759281	14994.367	18	4212019.894	10.0799006	842	9.9200994	8319.541
10.1756545	14984.922	17	4312022.227	10.0799849	843	9.9200151	8317.927
10.1753809	14975.486	16	4412024.562	10.0800692	843	9.9199308	8316.312
10.1751074	14966.058	15	4512026.899	10.0801538	844	9.9198464	8314.696
10.1748340	14956.638	14	4612029.237	10.0802381	845	9.9197619	8313.079
10.1745606	14947.226	13	4712031.577	10.0803225	844	9.9196775	8311.462
10.1742873	14937.822	12	4812033.919	10.0804071	846	9.9195929	8309.844
10.1740140	14928.426	11	4912036.264	10.0804917	846	9.9195083	8308.226
10.1737408	14919.038	10	5012038.610	10.0805763	846	9.9194237	8306.607
10.1734677	14909.659	9	5112040.958	10.0806610	847	9.9193390	8304.987
10.1731947	14900.288	8	5212043.308	10.0807458	848	9.9192542	8303.366
10.1729217	14890.925	7	5312045.660	10.0808306	848	9.9191694	8301.745
10.1726487	14881.570	6	5412048.014	10.0809155	849	9.9190845	8300.123
10.1723759	14872.223	5	5512050.370	10.0810004	849	9.9189996	8298.500
10.1721031	14862.884	4	5612052.728	10.0810854	850	9.9189146	8296.876
10.1718304	14853.553	3	5712055.088	10.0811704	850	9.9188296	8295.252
10.1715577	14844.230	2	5812057.450	10.0812555	851	9.9187445	8293.627
10.1712851	14834.916	1	5912059.814	10.0813406	851	9.9186595	8292.002
10.1710126	14825.610	0	6012062.180	10.0814258	852	9.9185742	8290.376
L. Tan.	N. Tan.	56			D	L. Sin.	N Sin.

34 N. Sin.	L. Sin.	Diff.			34 N. Tan.	L. Tan.	Diff.
0 5591.925	9.7475617		10 25 24383	17882.916	60	0 6745.085	9.8289874
1 5594.345	9.7477489	1872	10.2522511	17875.208	59	1 6749.318	9.8292599
2 5596.751	9.7479360	1871	10.2520640	17867.508	58	2 6753.553	9.8295323
3 5599.161	9.7481230	1870	10.2518770	17859.817	57	3 6757.790	9.8298047
4 5601.571	9.7483099	1869	10.2516901	17852.133	56	4 6762.028	9.8300769
5 5603.981	9.7484967	1868	10.2515033	17844.457	55	5 6766.268	9.8303491
6 5606.390	9.7486833	1866	10.2513167	17836.790	54	6 6770.509	9.8306213
7 5608.798	9.7488698	1865	10.2511302	17829.131	53	7 6774.752	9.8308934
8 5611.206	9.7490562	1864	10.2509438	17821.479	52	8 6778.997	9.8311654
9 5613.614	9.7492425	1863	10.2507575	17813.836	51	9 6783.244	9.8314374
10 5616.021	9.7494287	1862	10.2505713	17806.201	50	10 6787.492	9.8317093
11 5618.428	9.7496148	1861	10.2503852	17798.574	49	11 6791.742	9.8319811
12 5620.834	9.7498007	1859	10.2501993	17790.955	48	12 6795.993	9.8322529
13 5623.239	9.7499866	1859	10.2500134	17783.343	47	13 6800.246	9.8325246
14 5625.644	9.7501723	1857	10.2498277	17775.740	46	14 6804.501	9.8327963
15 5628.049	9.7503579	1856	10.2496421	17768.145	45	15 6808.758	9.8330679
16 5630.453	9.7505434	1855	10.2494566	17760.558	44	16 6813.016	9.8333394
17 5632.857	9.7507287	1853	10.2492713	17752.979	43	17 6817.276	9.8336109
18 5635.260	9.7509140	1853	10.2490860	17745.408	42	18 6821.538	9.8338823
19 5637.663	9.7510991	1851	10.2489009	17737.845	41	19 6825.801	9.8341536
20 5640.065	9.7512842	1851	10.2487158	17730.290	40	20 6830.066	9.8344249
21 5642.467	9.7514691	1849	10.2485309	17722.743	39	21 6834.333	9.8346961
22 5644.869	9.7516538	1847	10.2483462	17715.204	38	22 6838.601	9.8349673
23 5647.270	9.7518385	1847	10.2481615	17707.673	37	23 6842.871	9.8352384
24 5649.670	9.7520231	1846	10.2479769	17700.149	36	24 6847.143	9.8355094
25 5652.070	9.7522075	1844	10.2477925	17692.633	35	25 6851.417	9.8357804
26 5654.469	9.7523919	1844	10.2476081	17685.125	34	26 6855.692	9.8360513
27 5656.868	9.7525761	1842	10.2474239	17677.625	33	27 6859.969	9.8363221
28 5659.267	9.7527602	1841	10.2472398	17670.133	32	28 6864.247	9.8365929
29 5661.665	9.7529442	1840	10.2470558	17662.649	31	29 6868.527	9.8368636
30 5664.062	9.7531280	1838	10.2468720	17655.173	30	30 6872.810	9.8371343
31 5666.459	9.7533118	1838	10.2466882	17647.704	29	31 6877.094	9.8374049
32 5668.856	9.7534954	1836	10.2465045	17640.243	28	32 6881.379	9.8376755
33 5671.252	9.7536790	1836	10.2463210	17632.791	27	33 6885.666	9.8379460
34 5673.648	9.7538624	1834	10.2461376	17625.345	26	34 6889.955	9.8382164
35 5676.043	9.7540457	1833	10.2459543	17617.908	25	35 6894.246	9.8384867
36 5678.437	9.7542288	1831	10.2457712	17610.478	24	36 6898.538	9.8387571
37 5680.831	9.7544119	1831	10.2455881	17603.056	23	37 6902.832	9.8390273
38 5683.225	9.7545949	1830	10.2454051	17595.642	22	38 6907.128	9.8392975
39 5685.618	9.7547777	1828	10.2452223	17588.236	21	39 6911.425	9.8395676
40 5688.011	9.7549604	1827	10.2450396	17580.837	20	40 6915.724	9.8398377
41 5690.403	9.7551431	1827	10.2448569	17573.446	19	41 6920.025	9.8401077
42 5692.795	9.7553256	1825	10.2446744	17566.063	18	42 6924.328	9.8403776
43 5695.186	9.7555080	1824	10.2444920	17558.687	17	43 6928.633	9.8406475
44 5697.577	9.7556902	1822	10.2443098	17551.319	16	44 6932.939	9.8409174
45 5699.968	9.7558724	1822	10.2441276	17543.959	15	45 6937.247	9.8411871
46 5702.358	9.7560544	1820	10.2439456	17536.607	14	46 6941.557	9.8414569
47 5704.747	9.7562364	1820	10.2437636	17529.262	13	47 6945.868	9.8417265
48 5707.136	9.7564182	1818	10.2435818	17521.924	12	48 6950.181	9.8419961
49 5709.524	9.7565999	1817	10.2434001	17514.594	11	49 6954.496	9.8422657
50 5711.912	9.7567815	1816	10.2432185	17507.273	10	50 6958.813	9.8425351
51 5714.299	9.7569630	1815	10.2430370	17499.958	9	51 6963.131	9.8428046
52 5716.686	9.7571444	1814	10.2428556	17492.651	8	52 6967.451	9.8430739
53 5719.073	9.7573256	1812	10.2426744	17485.352	7	53 6971.773	9.8433432
54 5721.459	9.7575068	1812	10.2424932	17478.060	6	54 6976.097	9.8436125
55 5723.844	9.7576878	1810	10.2423122	17470.776	5	55 6980.422	9.8438817
56 5726.229	9.7578687	1809	10.2421313	17463.499	4	56 6984.749	9.8441508
57 5728.614	9.7580495	1808	10.2419505	17456.230	3	57 6989.078	9.8444199
58 5730.998	9.7582302	1807	10.2417698	17448.969	2	58 6993.409	9.8446889
59 5733.381	9.7584108	1806	10.2415892	17441.715	1	59 6997.741	9.8449579
60 5735.764	9.7585913	1805	10.2414087	17434.468	0	60 7002.075	9.8452268
		Diff.	L. Sec.	N. Sec. 155			Diff.

		34 N. Sec.	L. Sec.	D.	
10.1710126	14825.610	0	12062.180	10.0814258	8290.376
10.1707401	14816.311	1	12064.548	10.0815110	8288.749
10.1704677	14807.021	2	12066.918	10.0815963	8287.121
10.1701953	14797.738	3	12069.289	10.0816817	8285.493
10.1699231	14788.463	4	12071.662	10.0817671	8283.864
10.1696508	14779.197	5	12074.037	10.0818525	8282.234
10.1693787	14769.938	6	12076.414	10.0819380	8280.603
10.1691066	14760.688	7	12078.793	10.0820236	8278.972
10.1688346	14751.445	8	12081.175	10.0821092	8277.340
10.1685626	14742.210	9	12083.559	10.0821949	8275.707
10.1682907	14732.983	10	12085.944	10.0822806	8274.074
10.1680189	14723.764	11	12088.331	10.0823664	8272.440
10.1677471	14714.553	12	12090.720	10.0824522	8270.805
10.1674754	14705.350	13	12093.112	10.0825381	8269.170
10.1672037	14696.155	14	12095.505	10.0826240	8267.534
10.1669321	14686.967	15	12097.900	10.0827100	8265.897
10.1666606	14677.787	16	12100.297	10.0827960	8264.260
10.1663891	14668.616	17	12102.696	10.0828821	8262.622
10.1661177	14659.452	18	12105.097	10.0829683	8260.983
10.1658464	14650.296	19	12107.500	10.0830545	8259.343
10.1655751	14641.147	20	12109.905	10.0831407	8257.703
10.1653039	14632.007	21	12112.312	10.0832270	8256.062
10.1650327	14622.874	22	12114.721	10.0833134	8254.420
10.1647616	14613.749	23	12117.132	10.0833998	8252.778
10.1644906	14604.632	24	12119.545	10.0834863	8251.135
10.1642196	14595.522	25	12121.960	10.0835728	8249.491
10.1639487	14586.420	26	12124.377	10.0836594	8247.847
10.1636779	14577.326	27	12126.796	10.0837461	8246.202
10.1634071	14568.240	28	12129.217	10.0838327	8244.556
10.1631364	14559.161	29	12131.640	10.0839195	8242.909
10.1628657	14550.090	30	12134.064	10.0840063	8241.262
10.1625951	14541.027	31	12136.491	10.0840931	8239.614
10.1623245	14531.971	32	12138.920	10.0841800	8237.965
10.1620540	14522.923	33	12141.351	10.0842670	8236.316
10.1617833	14513.883	34	12143.783	10.0843540	8234.666
10.1615133	14504.850	35	12146.218	10.0844411	8233.015
10.1612429	14495.825	36	12148.655	10.0845282	8231.364
10.1609727	14486.808	37	12151.094	10.0846154	8229.712
10.1607025	14477.798	38	12153.535	10.0847026	8228.059
10.1604324	14468.796	39	12155.978	10.0847899	8226.405
10.1601623	14459.801	40	12158.423	10.0848772	8224.751
10.1598923	14450.814	41	12160.870	10.0849646	8223.096
10.1596224	14441.834	42	12163.319	10.0850521	8221.440
10.1593525	14432.862	43	12165.770	10.0851396	8219.784
10.1590826	14423.897	44	12168.223	10.0852271	8218.127
10.1588129	14414.940	45	12170.678	10.0853148	8216.469
10.1585431	14405.991	46	12173.135	10.0854024	8214.811
10.1582735	14397.049	47	12175.594	10.0854901	8213.152
10.1580039	14388.114	48	12178.055	10.0855779	8211.492
10.1577343	14379.187	49	12180.518	10.0856658	8209.831
10.1574649	14370.268	50	12182.983	10.0857536	8208.170
10.1571954	14361.356	51	12185.450	10.0858416	8206.508
10.1569261	14352.451	52	12187.919	10.0859295	8204.846
10.1566568	14343.554	53	12190.390	10.0860176	8203.183
10.1563875	14334.664	54	12192.864	10.0861057	8201.519
10.1561183	14325.781	55	12195.339	10.0861939	8199.854
10.1558492	14316.906	56	12197.816	10.0862821	8198.189
10.1555801	14308.039	57	12200.296	10.0863704	8196.523
10.1553111	14299.178	58	12202.777	10.0864587	8194.850
10.1550421	14290.326	59	12205.260	10.0865471	8193.189
10.1547732	14281.480	60	12207.746	10.0866355	8191.521
L. Tan.	N. Tan.			D. L. Sin.	N. S.

35	N. Sin.	L. Sin.	Diff.			35	N. Tan.	L. Tan.	Diff.
1	5735.764	9.7585913	1804	10.2414087	17434.46860	0	7002.075	9.8452268	2688
2	5738.147	9.7587717	1802	10.2412283	17427.22959	1	7006.411	9.8454956	2688
3	5740.529	9.7589519	1802	10.2410481	17419.99758	2	7010.749	9.8457644	2688
4	5742.911	9.7591321	1800	10.2408679	17412.77357	3	7015.087	9.8460332	2688
5	5745.292	9.7593121	1799	10.2406879	17405.55656	4	7019.430	9.8463018	2688
6	5747.672	9.7594920	1799	10.2405080	17398.34755	5	7023.773	9.8465705	2687
7	5750.052	9.7596718	1798	10.2403282	17391.14554	6	7028.118	9.8468390	2685
8	5752.432	9.7598515	1797	10.2401485	17383.95153	7	7032.465	9.8471075	2685
9	5754.811	9.7600311	1796	10.2399689	17376.76452	8	7036.813	9.8473760	2685
10	5757.190	9.7602106	1795	10.2397894	17369.58551	9	7041.163	9.8476444	2684
11	5759.568	9.7603899	1793	10.2396101	17362.41350	10	7045.515	9.8479127	2683
12	5761.946	9.7605692	1793	10.2394308	17355.24749	11	7049.869	9.8481810	2683
13	5764.323	9.7607483	1791	10.2392517	17348.09048	12	7054.224	9.8484492	2682
14	5766.700	9.7609274	1791	10.2390726	17340.94147	13	7058.581	9.8487174	2682
15	5769.075	9.7611063	1789	10.2388937	17333.79846	14	7062.940	9.8489855	2681
16	5771.452	9.7612851	1788	10.2387149	17326.66345	15	7067.301	9.8492536	2681
17	5773.827	9.7614638	1787	10.2385362	17319.53544	16	7071.664	9.8495216	2680
18	5776.202	9.7616424	1786	10.2383576	17312.41443	17	7076.029	9.8497896	2680
19	5778.576	9.7618208	1784	10.2381792	17305.30142	18	7080.395	9.8500575	2679
20	5780.950	9.7619992	1784	10.2380008	17298.19541	19	7084.763	9.8503253	2678
21	5783.323	9.7621775	1783	10.2378225	17291.09640	20	7089.133	9.8505931	2678
22	5785.696	9.7623556	1781	10.2376444	17284.00539	21	7093.505	9.8508608	2677
23	5788.068	9.7625337	1781	10.2374662	17276.92138	22	7097.878	9.8511285	2677
24	5790.440	9.7627116	1779	10.2372884	17269.84437	23	7102.253	9.8513961	2676
25	5792.812	9.7628894	1778	10.2371106	17262.77436	24	7106.630	9.8516637	2676
26	5795.183	9.7630671	1777	10.2369329	17255.71235	25	7111.009	9.8519312	2675
27	5797.553	9.7632447	1776	10.2367553	17248.65734	26	7115.390	9.8521987	2675
28	5799.923	9.7634222	1775	10.2365778	17241.60933	27	7119.773	9.8524661	2674
29	5802.292	9.7635996	1774	10.2364004	17234.56832	28	7124.157	9.8527335	2674
30	5804.661	9.7637769	1773	10.2362231	17227.53431	29	7128.543	9.8530008	2673
31	5807.030	9.7639540	1771	10.2360460	17220.50830	30	7132.931	9.8532680	2672
32	5809.398	9.7641311	1771	10.2358689	17213.48929	31	7137.321	9.8535352	2672
33	5811.765	9.7643080	1769	10.2356920	17206.47728	32	7141.711	9.8538023	2671
34	5814.132	9.7644849	1769	10.2355151	17199.47227	33	7146.106	9.8540694	2671
35	5816.498	9.7646616	1767	10.2353384	17192.47526	34	7150.501	9.8543365	2671
36	5818.864	9.7648382	1766	10.2351618	17185.48425	35	7154.898	9.8546034	2670
37	5821.230	9.7650147	1765	10.2349853	17178.50124	36	7159.297	9.8548704	2670
38	5823.595	9.7651911	1764	10.2348089	17171.52523	37	7163.698	9.8551372	2669
39	5825.959	9.7653674	1763	10.2346326	17164.55622	38	7168.101	9.8554041	2669
40	5828.323	9.7655435	1762	10.2344564	17157.59421	39	7172.505	9.8556708	2668
41	5830.687	9.7657197	1761	10.2342803	17150.63920	40	7176.911	9.8559376	2668
42	5833.050	9.7658957	1760	10.2341043	17143.69119	41	7181.319	9.8562042	2667
43	5835.412	9.7660715	1758	10.2339285	17136.75018	42	7185.729	9.8564708	2666
44	5837.774	9.7662473	1758	10.2337527	17129.81717	43	7190.141	9.8567374	2666
45	5840.136	9.7664229	1756	10.2335771	17122.89016	44	7194.555	9.8570039	2665
46	5842.497	9.7665985	1756	10.2334015	17115.97015	45	7198.970	9.8572704	2665
47	5844.857	9.7667739	1754	10.2332261	17109.05814	46	7203.387	9.8575368	2664
48	5847.217	9.7669492	1753	10.2330508	17102.15213	47	7207.806	9.8578031	2663
49	5849.577	9.7671244	1752	10.2328756	17095.25412	48	7212.227	9.8580694	2663
50	5851.935	9.7672996	1752	10.2327004	17088.36211	49	7216.650	9.8583357	2662
51	5854.294	9.7674746	1750	10.2325254	17081.47810	50	7221.075	9.8586019	2662
52	5856.652	9.7676494	1748	10.2323506	17074.60009	51	7225.502	9.8588680	2661
53	5859.010	9.7678242	1747	10.2321758	17067.73008	52	7229.931	9.8591341	2661
54	5861.367	9.7679989	1746	10.2320011	17060.86607	53	7234.361	9.8594002	2660
55	5863.724	9.7681735	1745	10.2318265	17054.01006	54	7238.793	9.8596661	2660
56	5866.080	9.7683480	1743	10.2316520	17047.16005	55	7243.227	9.8599321	2659
57	5868.435	9.7685222	1743	10.2314777	17040.31804	56	7247.663	9.8601980	2659
58	5870.790	9.7686966	1741	10.2313034	17033.48203	57	7252.101	9.8604638	2658
59	5873.145	9.7688707	1741	10.2311293	17026.65302	58	7256.541	9.8607296	2658
60	5875.499	9.7690448	1739	10.2309552	17019.83101	59	7260.983	9.8609954	2657
61	5877.853	9.7692187	1739	10.2307813	17013.01600	60	7265.426	9.8612610	2656
			Diff.	L. Sec.	N. Sec.				Diff.

		35	N. Sec.	L. Sec.	D.		
10.1547732	14281.480	60	12207.746	10.0866355	9.9133645	8191.521	60
10.1545044	14272.642	59	12210.233	10.0867240	9.9132760	8189.852	59
10.1542356	14263.811	58	12212.723	10.0868125	9.9131875	8188.182	58
10.1539668	14254.987	57	12215.215	10.0869011	9.9130989	8186.512	57
10.1536982	14246.170	56	12217.708	10.0869898	9.9130102	8184.841	56
10.1534295	14237.362	55	12220.204	10.0870785	9.9129215	8183.169	55
10.1531610	14228.561	54	12222.702	10.0871672	9.9128328	8181.497	54
10.1528925	14219.766	53	12225.202	10.0872560	9.9127440	8179.824	53
10.1526240	14210.975	52	12227.703	10.0873449	9.9126551	8178.150	52
10.1523556	14202.200	51	12230.207	10.0874338	9.9125662	8176.476	51
10.1520873	14193.427	50	12232.713	10.0875228	9.9124772	8174.801	50
10.1518190	14184.662	49	12235.221	10.0876118	9.9123882	8173.125	49
10.1515508	14175.904	48	12237.732	10.0877009	9.9122991	8171.449	48
10.1512826	14167.153	47	12240.244	10.0877901	9.9122099	8169.772	47
10.1510145	14158.409	46	12242.756	10.0878793	9.9121207	8168.094	46
10.1507464	14149.673	45	12245.274	10.0879685	9.9120315	8166.415	45
10.1504784	14140.943	44	12247.793	10.0880578	9.9119423	8164.736	44
10.1502104	14132.221	43	12250.313	10.0881472	9.9118532	8163.056	43
10.1499425	14123.506	42	12252.836	10.0882366	9.9117643	8161.376	42
10.1496747	14114.799	41	12255.361	10.0883261	9.9116755	8159.695	41
10.1494069	14106.098	40	12257.887	10.0884156	9.9115864	8158.013	40
10.1491392	14097.405	39	12260.416	10.0885052	9.9114973	8156.330	39
10.1488715	14088.718	38	12262.947	10.0885949	9.9114081	8154.647	38
10.1486039	14080.039	37	12265.480	10.0886845	9.9113185	8152.963	37
10.1483363	14071.367	36	12268.015	10.0887743	9.9112295	8151.278	36
10.1480688	14062.702	35	12270.552	10.0888641	9.9111405	8149.593	35
10.1478013	14054.044	34	12273.091	10.0889540	9.9110514	8147.906	34
10.1475339	14045.393	33	12275.633	10.0890439	9.9109621	8146.219	33
10.1472665	14036.749	32	12278.176	10.0891339	9.9108728	8144.532	32
10.1469992	14028.113	31	12280.721	10.0892239	9.9107831	8142.844	31
10.1467320	14019.483	30	12283.269	10.0893140	9.9106936	8141.155	30
10.1464648	14010.860	29	12285.819	10.0894041	9.9106045	8139.465	29
10.1461977	14002.245	28	12288.371	10.0894943	9.9105155	8137.775	28
10.1459306	13993.636	27	12290.925	10.0895845	9.9104261	8136.084	27
10.1456635	13985.034	26	12293.481	10.0896747	9.9103365	8134.393	26
10.1453966	13976.440	25	12296.039	10.0897652	9.9102468	8132.701	25
10.1451296	13967.852	24	12298.599	10.0898556	9.9101574	8131.008	24
10.1448628	13959.272	23	12301.161	10.0899461	9.9100679	8129.314	23
10.1445959	13950.698	22	12303.725	10.0900366	9.9099784	8127.620	22
10.1443292	13942.131	21	12306.292	10.0901272	9.9098888	8125.925	21
10.1440624	13933.571	20	12308.861	10.0902179	9.9097991	8124.229	20
10.1437958	13925.018	19	12311.432	10.0903085	9.9097095	8122.532	19
10.1435292	13916.473	18	12314.005	10.0903993	9.9096200	8120.835	18
10.1432626	13907.934	17	12316.580	10.0904901	9.9095309	8119.137	17
10.1429961	13899.401	16	12319.157	10.0905810	9.9094419	8117.439	16
10.1427296	13890.876	15	12321.736	10.0906715	9.9093528	8115.740	15
10.1424632	13882.358	14	12324.317	10.0907629	9.9092637	8114.040	14
10.1421969	13873.846	13	12326.900	10.0908539	9.9091746	8112.339	13
10.1419306	13865.342	12	12329.486	10.0909445	9.9090850	8110.638	12
10.1416643	13856.844	11	12332.074	10.0910351	9.9089959	8108.936	11
10.1413981	13848.353	10	12334.664	10.0911273	9.9089072	8107.233	10
10.1411320	13839.869	9	12337.256	10.0912186	9.9088184	8105.530	9
10.1408659	13831.392	8	12339.850	10.0913099	9.9087290	8103.826	8
10.1405998	13822.922	7	12342.446	10.0914012	9.9086405	8102.121	7
10.1403337	13814.458	6	12345.044	10.0914927	9.9085517	8100.416	6
10.1400679	13806.001	5	12347.645	10.0915841	9.9084629	8098.710	5
10.1398020	13797.551	4	12350.248	10.0916757	9.9083743	8097.003	4
10.1395362	13789.105	3	12352.852	10.0917673	9.9082857	8095.296	3
10.1392704	13780.672	2	12355.459	10.0918589	9.9081971	8093.588	2
10.1390046	13772.242	1	12358.068	10.0919506	9.9081084	8091.879	1
10.1387390	13763.819	0	12360.680	10.0920424	9.9080196	8090.170	0
L. Tang.	N. Tan. 54				L. Sin.	N. Sin. 54	

36	N. Sin.	L. Sin.	Diff.				36	N. Tan.	L. Tan.	Diff.
0	5877.853	9.7692187		10.2307813	17013.016	60	7265.426	9.8612610		
1	5880.236	9.7692925	1738	10.2306075	17006.208	59	7269.871	9.8615267	2657	
2	5882.558	9.7693662	1737	10.2304338	16999.407	58	7274.318	9.8617923	2656	
3	5884.910	9.7694398	1736	10.2302602	16992.612	57	7278.767	9.8620578	2655	
4	5887.262	9.7695134	1736	10.2300866	16985.825	56	7283.218	9.8623233	2654	
5	5889.613	9.7700868	1734	10.2299132	16979.044	55	7287.671	9.8625887	2654	
6	5891.964	9.7702601	1733	10.2297399	16972.271	54	7292.126	9.8628541	2654	
7	5894.314	9.7704332	1731	10.2295668	16965.504	53	7296.582	9.8631195	2654	
8	5896.663	9.7706063	1731	10.2293937	16958.743	52	7301.040	9.8633848	2653	
9	5899.012	9.7707793	1730	10.2292207	16951.990	51	7305.501	9.8636500	2652	
10	5901.361	9.7709522	1729	10.2290476	16945.244	50	7309.963	9.8639152	2651	
11	5903.709	9.7711249	1727	10.2288745	16938.504	49	7314.427	9.8641803	2651	
12	5906.057	9.7712976	1727	10.2287014	16931.771	48	7318.894	9.8644454	2651	
13	5908.404	9.7714702	1726	10.2285283	16925.045	47	7323.362	9.8647105	2651	
14	5910.750	9.7716426	1724	10.2283554	16918.326	46	7327.831	9.8649757	2650	
15	5913.096	9.7718150	1724	10.2281825	16911.613	45	7332.303	9.8652408	2649	
16	5915.442	9.7719872	1722	10.2280096	16904.907	44	7336.777	9.8655059	2649	
17	5917.787	9.7721593	1721	10.2278367	16898.208	43	7341.253	9.8657709	2648	
18	5920.132	9.7723314	1721	10.2276638	16891.516	42	7345.730	9.8660359	2648	
19	5922.476	9.7725033	1719	10.2274907	16884.830	41	7350.210	9.8662997	2647	
20	5924.819	9.7726751	1718	10.2273178	16878.151	40	7354.691	9.8665644	2647	
21	5927.162	9.7728468	1717	10.2271452	16871.479	39	7359.174	9.8668291	2647	
22	5929.505	9.7730185	1717	10.2269726	16864.814	38	7363.660	9.8670937	2646	
23	5931.847	9.7731900	1715	10.2268000	16858.155	37	7368.147	9.8673583	2646	
24	5934.189	9.7733614	1714	10.2266273	16851.503	36	7372.636	9.8676228	2645	
25	5936.530	9.7735327	1713	10.2264547	16844.857	35	7377.127	9.8678873	2645	
26	5938.871	9.7737039	1712	10.2262821	16838.218	34	7381.620	9.8681517	2644	
27	5941.211	9.7738749	1710	10.2261095	16831.586	33	7386.115	9.8684160	2644	
28	5943.550	9.7740459	1709	10.2259369	16824.961	32	7390.611	9.8686804	2644	
29	5945.889	9.7742168	1708	10.2257643	16818.342	31	7395.110	9.8689446	2643	
30	5948.228	9.7743875	1708	10.2255917	16811.730	30	7399.611	9.8692089	2643	
31	5950.566	9.7745583	1707	10.2254191	16805.124	29	7404.114	9.8694731	2642	
32	5952.903	9.7747288	1705	10.2252465	16798.525	28	7408.618	9.8697372	2641	
33	5955.240	9.7748993	1705	10.2250739	16791.933	27	7413.124	9.8700013	2641	
34	5957.577	9.7750697	1704	10.2249013	16785.347	26	7417.633	9.8702653	2640	
35	5959.913	9.7752399	1702	10.2247287	16778.768	25	7422.143	9.8705293	2640	
36	5962.249	9.7754101	1702	10.2245561	16772.195	24	7426.655	9.8707933	2639	
37	5964.584	9.7755801	1700	10.2243835	16765.629	23	7431.170	9.8710572	2638	
38	5966.918	9.7757501	1700	10.2242109	16759.070	22	7435.686	9.8713210	2638	
39	5969.252	9.7759199	1698	10.2240383	16752.517	21	7440.204	9.8715848	2637	
40	5971.586	9.7760897	1698	10.2238657	16745.970	20	7444.724	9.8718486	2637	
41	5973.919	9.7762593	1696	10.2236931	16739.430	19	7449.246	9.8721123	2637	
42	5976.251	9.7764289	1695	10.2235205	16732.897	18	7453.770	9.8723760	2636	
43	5978.583	9.7765983	1694	10.2233479	16726.370	17	7458.296	9.8726396	2636	
44	5980.915	9.7767676	1693	10.2231753	16719.850	16	7462.824	9.8729032	2635	
45	5983.246	9.7769369	1691	10.2230027	16713.336	15	7467.354	9.8731668	2635	
46	5985.576	9.7771060	1690	10.2228301	16706.828	14	7471.886	9.8734302	2634	
47	5987.906	9.7772750	1689	10.2226575	16700.328	13	7476.420	9.8736937	2634	
48	5990.236	9.7774439	1689	10.2224849	16693.833	12	7480.956	9.8739571	2633	
49	5992.565	9.7776128	1687	10.2223123	16687.345	11	7485.494	9.8742204	2633	
50	5994.893	9.7777815	1687	10.2221397	16680.864	10	7490.033	9.8744838	2632	
51	5997.221	9.7779501	1686	10.2219671	16674.389	9	7494.575	9.8747470	2632	
52	5999.549	9.7781186	1684	10.2217945	16667.920	8	7499.119	9.8750102	2631	
53	6001.876	9.7782870	1683	10.2216219	16661.458	7	7503.665	9.8752734	2631	
54	6004.202	9.7784553	1682	10.2214493	16655.002	6	7508.212	9.8755365	2631	
55	6006.528	9.7786235	1681	10.2212767	16648.552	5	7512.762	9.8757996	2631	
56	6008.853	9.7787916	1680	10.2211041	16642.109	4	7517.314	9.8760627	2630	
57	6011.178	9.7789596	1679	10.2209315	16635.673	3	7521.867	9.8763257	2629	
58	6013.503	9.7791275	1678	10.2207589	16629.243	2	7526.423	9.8765888	2629	
59	6015.827	9.7792953	1677	10.2205863	16622.819	1	7530.981	9.8768519	2629	
60	6018.150	9.7794630	1677	10.2204137	16616.401	0	7535.540	9.8771144	2629	
Diff L. Sec.				N. Sec. 153				Diff		

			36. N. Sec.	L. Sec.	D			
10.1387390	13763.819	60	12360.680	10.0920424	9.9079576	8090.170	60	
10.1384733	13755.403	59	12363.294	10.0921342	9.9078658	8088.460	59	
10.1382077	13746.994	58	12365.909	10.0922260	9.9077740	8086.749	58	
10.1379422	13738.591	57	12368.526	10.0923180	9.9076820	8085.037	57	
10.1376767	13730.195	56	12371.148	10.0924099	9.9075901	8083.325	56	
10.1374111	13721.805	55	12373.768	10.0925020	9.9074980	8081.612	55	
10.1371455	13713.423	54	12376.393	10.0925941	9.9074059	8079.899	54	
10.1368805	13705.047	53	12379.019	10.0926862	9.9073138	8078.185	53	
10.1366152	13696.678	52	12381.647	10.0927784	9.9072216	8076.470	52	
10.1363500	13688.315	51	12384.278	10.0928707	9.9071293	8074.754	51	
10.1360848	13679.955	50	12386.911	10.0929630	9.9070370	8073.038	50	
10.1358197	13671.610	49	12389.546	10.0930554	9.9069446	8071.321	49	
10.1355546	13663.267	48	12392.183	10.0931478	9.9068522	8069.603	48	
10.1352895	13554.931	47	12394.822	10.0932403	9.9067597	8067.885	47	
10.1350245	13546.602	46	12397.464	10.0933329	9.9066671	8066.166	46	
10.1347596	13538.279	45	12400.108	10.0934255	9.9065745	8064.446	45	
10.1344947	13529.953	44	12402.754	10.0935181	9.9064819	8062.726	44	
10.1342298	13521.653	43	12405.402	10.0936108	9.9063892	8061.005	43	
10.1339650	13513.350	42	12408.052	10.0937035	9.9062964	8059.283	42	
10.1337003	13505.054	41	12410.704	10.0937964	9.9062036	8057.560	41	
10.1334356	13596.764	40	12413.359	10.0938893	9.9061107	8055.837	40	
10.1331709	13588.481	39	12416.016	10.0939823	9.9060177	8054.113	39	
10.1329063	13580.204	38	12418.675	10.0940753	9.9059247	8052.389	38	
10.1326417	13571.934	37	12421.336	10.0941683	9.9058317	8050.664	37	
10.1323772	13563.670	36	12423.999	10.0942614	9.9057386	8048.938	36	
10.1321127	13555.413	35	12426.665	10.0943546	9.9056454	8047.211	35	
10.1318483	13547.164	34	12429.333	10.0944478	9.9055522	8045.484	34	
10.1315840	13538.918	33	12432.003	10.0945411	9.9054589	8043.756	33	
10.1313196	13530.680	32	12434.675	10.0946344	9.9053655	8042.028	32	
10.1310554	13522.449	31	12437.349	10.0947278	9.9052722	8040.299	31	
10.1307911	13514.224	30	12440.026	10.0948213	9.9051787	8038.569	30	
10.1305269	13506.006	29	12442.705	10.0949148	9.9050852	8036.838	29	
10.1302628	13497.794	28	12445.386	10.0950084	9.9049916	8035.107	28	
10.1299987	13489.589	27	12448.069	10.0951020	9.9048981	8033.375	27	
10.1297347	13481.390	26	12450.754	10.0951957	9.9048043	8031.642	26	
10.1294707	13473.197	25	12453.442	10.0952894	9.9047106	8029.909	25	
10.1292067	13465.011	24	12456.131	10.0953832	9.9046168	8028.175	24	
10.1289428	13456.839	23	12458.823	10.0954770	9.9045230	8026.442	23	
10.1286790	13448.655	22	12461.518	10.0955709	9.9044291	8024.705	22	
10.1284152	13440.492	21	12464.214	10.0956649	9.9043351	8022.969	21	
10.1281514	13432.331	20	12466.913	10.0957589	9.9042411	8021.232	20	
10.1278877	13424.177	19	12469.614	10.0958530	9.9041470	8019.494	19	
10.1276240	13416.025	18	12472.317	10.0959471	9.9040529	8017.756	18	
10.1273604	13407.888	17	12475.021	10.0960413	9.9039587	8016.017	17	
10.1270968	13399.753	16	12477.730	10.0961356	9.9038644	8014.278	16	
10.1268332	13391.624	15	12480.440	10.0962299	9.9037701	8012.538	15	
10.1265698	13383.502	14	12483.152	10.0963243	9.9036757	8010.797	14	
10.1263063	13375.386	13	12485.866	10.0964187	9.9035813	8009.056	13	
10.1260425	13367.276	12	12488.583	10.0965132	9.9034868	8007.314	12	
10.1257796	13359.172	11	12491.302	10.0966077	9.9033923	8005.571	11	
10.1255162	13351.075	10	12494.023	10.0967023	9.9032977	8003.827	10	
10.1252530	13342.984	9	12496.746	10.0967969	9.9032031	8002.083	9	
10.1249898	13334.900	8	12499.471	10.0968916	9.9031084	8000.338	8	
10.1247266	13326.822	7	12502.199	10.0969864	9.9030136	7998.593	7	
10.1244635	13318.749	6	12504.929	10.0970812	9.9029188	7996.847	6	
10.1242004	13310.684	5	12507.661	10.0971761	9.9028239	7995.100	5	
10.1239373	13302.624	4	12510.396	10.0972711	9.9027288	7993.352	4	
10.1236743	13294.571	3	12513.133	10.0973661	9.9026339	7991.604	3	
10.1234114	13286.524	2	12515.872	10.0974611	9.9025389	7989.855	2	
10.1231485	13278.483	1	12518.613	10.0975562	9.9024438	7988.105	1	
10.1228856	13270.448	0	12521.357	10.0976514	9.9023486	7986.355	0	
L. Tan.	N. Tan.	53			D.	L. Sin.	N. Sin.	53

37	N. Sin	L. Sin	Diff			37	N. Tan	L. Tan	Diff
0	6018.150	9.7794630		10.2205374	16616.401	60	07535.540	9.8771144	
1	6020.473	9.7796306	167	10.2203694	16609.990	59	17540.102	9.8773772	2628
2	6022.795	9.7797981	167	10.2202019	16603.585	58	27544.666	9.8776400	2628
3	6025.117	9.7799655	167	10.2200345	16597.187	57	37549.232	9.8779027	2627
4	6027.439	9.7801328	167	10.2198672	16590.795	56	47553.799	9.8781654	2627
5	6029.760	9.7803000	167	10.2197000	16584.409	55	57558.369	9.8784281	2627
6	6032.080	9.7804671	167	10.2195325	16578.030	54	67562.941	9.8786907	2626
7	6034.400	9.7806341	167	10.2193655	16571.657	53	77567.514	9.8789533	2626
8	6036.719	9.7808010	166	10.2191990	16565.290	52	87572.090	9.8792158	2625
9	6039.038	9.7809677	166	10.2190323	16558.929	51	97576.668	9.8794782	2624
10	6041.356	9.7811344	166	10.2188656	16552.575	50	107581.248	9.8797407	2624
11	6043.674	9.7813010	166	10.2186990	16546.227	49	117585.829	9.8800031	2623
12	6045.991	9.7814675	166	10.2185325	16539.885	48	127590.413	9.8802654	2623
13	6048.308	9.7816339	166	10.2183661	16533.550	47	137594.999	9.8805277	2622
14	6050.624	9.7818002	166	10.2181998	16527.221	46	147599.587	9.8807900	2622
15	6052.940	9.7819664	166	10.2180336	16520.898	45	157604.177	9.8810522	2621
16	6055.255	9.7821324	166	10.2178676	16514.581	44	167608.769	9.8813144	2621
17	6057.570	9.7822984	166	10.2177016	16508.270	43	177613.363	9.8815765	2621
18	6059.884	9.7824643	165	10.2175357	16501.966	42	187617.959	9.8818386	2621
19	6062.198	9.7826301	165	10.2173699	16495.668	41	197622.557	9.8821007	2620
20	6064.511	9.7827958	165	10.2172042	16489.376	40	207627.157	9.8823627	2619
21	6066.823	9.7829614	165	10.2170386	16483.090	39	217631.759	9.8826246	2619
22	6069.135	9.7831268	165	10.2168732	16476.811	38	227636.363	9.8828866	2618
23	6071.447	9.7832922	165	10.2167078	16470.537	37	237640.969	9.8831484	2618
24	6073.758	9.7834575	165	10.2165425	16464.270	36	247645.577	9.8834103	2619
25	6076.069	9.7836227	165	10.2163773	16458.009	35	257650.188	9.8836721	2618
26	6078.379	9.7837878	165	10.2162122	16451.754	34	267654.800	9.8839338	2617
27	6080.689	9.7839528	165	10.2160472	16445.506	33	277659.414	9.8841956	2617
28	6082.998	9.7841177	164	10.2158823	16439.263	32	287664.031	9.8844572	2616
29	6085.306	9.7842824	164	10.2157176	16433.027	31	297668.649	9.8847189	2616
30	6087.614	9.7844471	164	10.2155529	16426.796	30	307673.270	9.8849805	2616
31	6089.922	9.7846117	164	10.2153883	16420.572	29	317677.893	9.8852420	2615
32	6092.229	9.7847762	164	10.2152238	16414.354	28	327682.517	9.8855035	2615
33	6094.535	9.7849406	164	10.2150594	16408.142	27	337687.144	9.8857650	2615
34	6096.841	9.7851049	164	10.2148951	16401.936	26	347691.773	9.8860264	2614
35	6099.147	9.7852691	164	10.2147307	16395.736	25	357696.404	9.8862878	2614
36	6101.452	9.7854332	164	10.2145668	16389.542	24	367701.037	9.8865492	2614
37	6103.756	9.7855972	164	10.2144028	16383.355	23	377705.672	9.8868105	2613
38	6106.060	9.7857611	163	10.2142389	16377.173	22	387710.309	9.8870718	2613
39	6108.363	9.7859249	163	10.2140751	16370.997	21	397714.948	9.8873330	2612
40	6110.666	9.7860886	163	10.2139114	16364.828	20	407719.589	9.8875942	2612
41	6112.968	9.7862522	163	10.2137478	16358.666	19	417724.233	9.8878554	2611
42	6115.270	9.7864157	163	10.2135843	16352.507	18	427728.879	9.8881165	2611
43	6117.572	9.7865791	163	10.2134209	16346.355	17	437733.526	9.8883775	2610
44	6119.873	9.7867424	163	10.2132576	16340.210	16	447738.175	9.8886386	2610
45	6122.173	9.7869056	163	10.2130944	16334.070	15	457742.827	9.8888996	2609
46	6124.473	9.7870687	163	10.2129313	16327.937	14	467747.481	9.8891605	2609
47	6126.772	9.7872317	163	10.2127683	16321.809	13	477752.137	9.8894214	2608
48	6129.071	9.7873946	162	10.2126054	16315.688	12	487756.795	9.8896823	2608
49	6131.369	9.7875574	162	10.2124426	16309.572	11	497761.455	9.8899432	2607
50	6133.666	9.7877202	162	10.2122798	16303.462	10	507766.117	9.8902040	2607
51	6135.963	9.7878828	162	10.2121172	16297.359	9	517770.782	9.8904647	2607
52	6138.260	9.7880453	162	10.2119547	16291.261	8	527775.448	9.8907254	2607
53	6140.556	9.7882077	162	10.2117923	16285.169	7	537780.117	9.8909861	2607
54	6142.852	9.7883701	162	10.2116299	16279.083	6	547784.788	9.8912468	2606
55	6145.147	9.7885323	162	10.2114677	16273.003	5	557789.460	9.8915074	2606
56	6147.442	9.7886944	162	10.2113056	16266.929	4	567794.135	9.8917679	2605
57	6149.736	9.7888565	161	10.2111435	16260.861	3	577798.812	9.8920285	2605
58	6152.029	9.7890184	161	10.2109816	16254.799	2	587803.492	9.8922890	2604
59	6154.322	9.7891802	161	10.2108198	16248.743	1	597808.173	9.8925494	2604
60	6156.615	9.7893420	161	10.2106580	16242.692	0	607812.856	9.8928098	2604
			Diff.	L. Sec	N. Sec. 52				Diff.

			37	N. Sec.	L. Sec.	D.			
10.1228856	13270.448	60	0	12521.357	10.0976514	952	9.9023486	7586.355	60
10.1226228	13262.420	59	1	12524.102	10.0977466	953	9.9022534	7984.604	59
10.1223600	13254.397	58	2	12526.850	10.0978419	954	9.9021581	7982.852	58
10.1220973	13246.381	57	3	12529.601	10.0979372	955	9.9020628	7981.100	57
10.1218340	13238.371	56	4	12532.353	10.0980326	956	9.9019674	7979.347	56
10.1215719	13230.368	55	5	12535.108	10.0981281	957	9.9018719	7977.593	55
10.1213093	13222.370	54	6	12537.855	10.0982236	958	9.9017764	7975.839	54
10.1210467	13214.379	53	7	12540.625	10.0983192	959	9.9016805	7974.084	53
10.1207842	13206.393	52	8	12543.387	10.0984148	960	9.9015852	7972.328	52
10.1205218	13198.414	51	9	12546.151	10.0985105	961	9.9014895	7970.572	51
10.1202593	13190.441	50	10	12548.917	10.0986062	962	9.9013938	7968.815	50
10.1199969	13182.474	49	11	12551.685	10.0987020	963	9.9012980	7967.057	49
10.1197346	13174.513	48	12	12554.456	10.0987979	964	9.9012021	7965.299	48
10.1194723	13166.559	47	13	12557.229	10.0988938	965	9.9011062	7963.540	47
10.1192100	13158.610	46	14	12560.005	10.0989898	966	9.9010102	7961.780	46
10.1189478	13150.668	45	15	12562.782	10.0990858	967	9.9009142	7960.020	45
10.1186856	13142.731	44	16	12565.562	10.0991819	968	9.9008181	7958.259	44
10.1184235	13134.801	43	17	12568.345	10.0992781	969	9.9007219	7956.497	43
10.1181614	13126.876	42	18	12571.129	10.0993743	970	9.9006257	7954.735	42
10.1178993	13118.958	41	19	12573.916	10.0994706	971	9.9005294	7952.972	41
10.1176373	13111.046	40	20	12576.705	10.0995669	972	9.9004331	7951.208	40
10.1173754	13103.140	39	21	12579.497	10.0996633	973	9.9003367	7949.443	39
10.1171134	13095.239	38	22	12582.291	10.0997597	974	9.9002403	7947.678	38
10.1168516	13087.345	37	23	12585.087	10.0998562	975	9.9001438	7945.912	37
10.1165897	13079.457	36	24	12587.885	10.0999528	976	9.9000472	7944.146	36
10.1163279	13071.575	35	25	12590.686	10.1000494	977	9.8999506	7942.379	35
10.1160662	13063.699	34	26	12593.489	10.1001461	978	9.8998539	7940.611	34
10.1158044	13055.828	33	27	12596.294	10.1002428	979	9.8997572	7938.843	33
10.1155428	13047.964	32	28	12599.102	10.1003396	980	9.8996604	7937.074	32
10.1152811	13040.106	31	29	12601.912	10.1004364	981	9.8995636	7935.304	31
10.1150195	13032.254	30	30	12604.724	10.1005333	982	9.8994667	7933.533	30
10.1147580	13024.407	29	31	12607.539	10.1006303	970	9.8993697	7931.762	29
10.1144965	13016.567	28	32	12610.356	10.1007273	971	9.8992727	7929.990	28
10.1142350	13008.732	27	33	12613.175	10.1008244	972	9.8991756	7928.218	27
10.1139736	13000.902	26	34	12615.997	10.1009216	973	9.8990784	7926.445	26
10.1137122	12993.081	25	35	12618.820	10.1010188	974	9.8989812	7924.671	25
10.1134508	12985.265	24	36	12621.646	10.1011160	975	9.8988840	7922.896	24
10.1131895	12977.454	23	37	12624.475	10.1012133	976	9.8987867	7921.121	23
10.1129282	12969.649	22	38	12627.306	10.1013107	977	9.8986893	7919.345	22
10.1126670	12961.850	21	39	12630.140	10.1014081	978	9.8985919	7917.569	21
10.1124058	12954.057	20	40	12632.975	10.1015056	979	9.8984944	7915.792	20
10.1121446	12946.269	19	41	12635.813	10.1016032	980	9.8983968	7914.014	19
10.1118835	12938.483	18	42	12638.653	10.1017008	981	9.8982992	7912.235	18
10.1116225	12930.712	17	43	12641.496	10.1017985	977	9.8982015	7910.456	17
10.1113614	12922.943	16	44	12644.341	10.1018962	978	9.8981038	7908.676	16
10.1111004	12915.179	15	45	12647.188	10.1019940	979	9.8980060	7906.896	15
10.1108395	12907.421	14	46	12650.038	10.1020918	980	9.8979082	7905.115	14
10.1105786	12899.669	13	47	12652.890	10.1021897	981	9.8978103	7903.333	13
10.1103177	12891.922	12	48	12655.745	10.1022877	982	9.8977123	7901.550	12
10.1100568	12884.182	11	49	12658.601	10.1023857	983	9.8976143	7899.767	11
10.1097960	12876.447	10	50	12661.460	10.1024838	984	9.8975162	7897.983	10
10.1095353	12868.718	9	51	12664.322	10.1025819	985	9.8974181	7896.198	9
10.1092746	12860.995	8	52	12667.186	10.1026801	986	9.8973199	7894.413	8
10.1090139	12853.277	7	53	12670.052	10.1027782	987	9.8972216	7892.627	7
10.1087532	12845.566	6	54	12672.921	10.1028767	988	9.8971233	7890.841	6
10.1084926	12837.860	5	55	12675.792	10.1029751	989	9.8970249	7889.054	5
10.1082321	12830.160	4	56	12678.665	10.1030735	990	9.8969265	7887.266	4
10.1079715	12822.466	3	57	12681.541	10.1031720	991	9.8968280	7885.477	3
10.1077110	12814.773	2	58	12684.419	10.1032706	992	9.8967294	7883.688	2
10.1074506	12807.095	1	59	12687.299	10.1033692	993	9.8966308	7881.898	1
10.1071902	12799.416	0	60	12690.182	10.1034679	994	9.8965321	7880.107	0
L. Tan.	N. Tan.	52				D.	L. Sin.	N. Sin.	52

38	N. Sin	L. Sin.	Diff			37	N. Tan.	L. Tan.	Diff
1	6156.615	9.7893420		10.2106580	16242.692	60	07812.856	9.8928098	
1	6158.907	9.7895035	1610	10.2104964	16236.548	59	17817.547	9.8930701	2604
2	6161.198	9.7896652	1610	10.2103348	16230.609	58	27822.229	9.8933306	2604
3	6163.489	9.7898266	1610	10.2101734	16224.570	57	37826.911	9.8935909	2603
4	6165.779	9.7899880	1610	10.2100120	16218.549	56	47831.611	9.8938511	2603
5	6168.065	9.7901493	1610	10.2098507	16212.528	55	57836.305	9.8941114	2603
6	6170.355	9.7903106	1610	10.2096890	16206.511	54	67841.002	9.8943715	2601
7	6172.641	9.7904719	1610	10.2095285	16200.500	53	77845.700	9.8946317	2601
8	6174.931	9.7906335	1610	10.2093675	16194.500	52	87850.400	9.8948918	2601
9	6177.220	9.7907951	1600	10.2092067	16188.502	51	97855.103	9.8951519	2600
10	6179.511	9.7909564	1600	10.2090459	16182.510	50	107859.808	9.8954119	2600
11	6181.795	9.7911178	1600	10.2088852	16176.524	49	117864.515	9.8956719	2600
12	6184.084	9.7912794	1600	10.2087246	16170.544	48	127869.224	9.8959319	2599
13	6186.370	9.7914409	1600	10.2085641	16164.569	47	137873.935	9.8961918	2599
14	6188.655	9.7915963	1600	10.2084037	16158.600	46	147878.649	9.8964517	2599
15	6190.940	9.7917566	1600	10.2082434	16152.637	45	157883.364	9.8967116	2599
16	6193.224	9.7919168	1600	10.2080832	16146.680	44	167888.082	9.8969714	2598
17	6195.507	9.7920769	1600	10.2079231	16140.728	43	177892.802	9.8972312	2598
18	6197.790	9.7922369	1600	10.2077631	16134.783	42	187897.524	9.8974910	2598
19	6200.073	9.7923968	1599	10.2076032	16128.842	41	197902.248	9.8977507	2597
20	6202.355	9.7925566	1599	10.2074434	16122.908	40	207906.975	9.8980104	2597
21	6204.636	9.7927163	1599	10.2072837	16116.980	39	217911.703	9.8982700	2596
22	6206.917	9.7928760	1599	10.2071240	16111.057	38	227916.434	9.8985296	2596
23	6209.198	9.7930357	1599	10.2069645	16105.140	37	237921.167	9.8987891	2596
24	6211.478	9.7931949	1599	10.2068051	16099.228	36	247925.902	9.8990487	2595
25	6213.757	9.7933543	1599	10.2066457	16093.323	35	257930.640	9.8993082	2595
26	6216.036	9.7935135	1599	10.2064865	16087.423	34	267935.379	9.8995677	2595
27	6218.314	9.7936727	1599	10.2063273	16081.528	33	277940.121	9.8998271	2594
28	6220.592	9.7938317	1599	10.2061683	16075.640	32	287944.865	9.9000865	2594
29	6222.869	9.7939907	1599	10.2060093	16069.757	31	297949.611	9.9003459	2594
30	6225.146	9.7941496	1589	10.2058504	16063.879	30	307954.359	9.9006052	2593
31	6227.422	9.7943083	1587	10.2056917	16058.008	29	317959.110	9.9008645	2593
32	6229.698	9.7944670	1587	10.2055330	16052.142	28	327963.862	9.9011237	2592
33	6231.973	9.7946256	1585	10.2053744	16046.281	27	337968.617	9.9013830	2592
34	6234.248	9.7947841	1585	10.2052159	16040.426	26	347973.374	9.9016422	2592
35	6236.522	9.7949425	1584	10.2050575	16034.577	25	357978.134	9.9019013	2591
36	6238.796	9.7951008	1583	10.2048992	16028.734	24	367982.895	9.9021604	2591
37	6241.069	9.7952590	1582	10.2047410	16022.896	23	377987.659	9.9024195	2591
38	6243.342	9.7954171	1581	10.2045829	16017.064	22	387992.425	9.9026786	2590
39	6245.614	9.7955751	1580	10.2044249	16011.237	21	397997.193	9.9029376	2590
40	6247.885	9.7957330	1579	10.2042670	16005.416	20	407901.963	9.9031966	2589
41	6250.156	9.7958909	1579	10.2041091	15999.600	19	417906.736	9.9034555	2589
42	6252.426	9.7960486	1577	10.2039514	15993.790	18	427911.511	9.9037144	2589
43	6254.696	9.7962062	1576	10.2037938	15987.986	17	437916.288	9.9039733	2588
44	6256.966	9.7963638	1576	10.2036362	15982.187	16	447921.067	9.9042321	2588
45	6259.235	9.7965212	1574	10.2034788	15976.394	15	457925.848	9.9044910	2587
46	6261.503	9.7966786	1574	10.2033214	15970.606	14	467930.632	9.9047497	2587
47	6263.771	9.7968359	1573	10.2031641	15964.824	13	477935.418	9.9050084	2586
48	6266.038	9.7969930	1571	10.2030070	15959.047	12	487940.206	9.9052672	2586
49	6268.305	9.7971501	1571	10.2028499	15953.276	11	497944.997	9.9055259	2585
50	6270.571	9.7973071	1570	10.2026925	15947.511	10	507949.790	9.9057845	2585
51	6272.837	9.7974640	1569	10.2025360	15941.751	9	517954.585	9.9060431	2584
52	6275.102	9.7976208	1568	10.2023792	15935.996	8	527959.382	9.9063017	2584
53	6277.366	9.7977775	1567	10.2022225	15930.247	7	537964.181	9.9065603	2583
54	6279.630	9.7979341	1566	10.2020659	15924.504	6	547968.983	9.9068188	2583
55	6281.894	9.7980906	1565	10.2019094	15918.766	5	557973.787	9.9070773	2582
56	6284.157	9.7982470	1564	10.2017530	15913.033	4	567978.593	9.9073357	2582
57	6286.420	9.7984034	1562	10.2015966	15907.306	3	577983.401	9.9075941	2581
58	6288.682	9.7985596	1562	10.2014404	15901.584	2	587988.212	9.9078525	2581
59	6290.943	9.7987158	1560	10.2012843	15895.868	1	597993.025	9.9081109	2580
60	6293.204	9.7988718	1560	10.2011282	15890.157	0	607997.840	9.9083692	2580
		Diff.	L. Sec.	N. Sec 5					

39 N. Sin	L. Sin.	Diff.			39 N. Tan.	L. Tan.	Diff.
06293.204	9.7988718	1560	10.2011282	15890.157	60	08097.840	9.9083692
16295.462	9.7990278	1558	10.2009721	15884.452	59	18102.658	9.9086275
26297.724	9.7991836	1558	10.2008164	15878.752	58	28107.478	9.9088858
36299.983	9.7993394	1557	10.2006606	15873.058	57	38112.300	9.9091440
46302.242	9.7994951	1556	10.2005049	15867.369	56	48117.124	9.9094022
56304.500	9.7996507	1555	10.2003493	15861.685	55	58121.951	9.9096603
66306.758	9.7998062	1554	10.2001938	15856.007	54	68126.780	9.9099185
76309.015	9.7999616	1553	10.2000384	15850.334	53	78131.611	9.9101766
86311.272	9.8001169	1552	10.1998831	15844.667	52	88136.444	9.9104347
96313.528	9.8002721	1551	10.1997279	15839.005	51	98141.280	9.9106927
106315.784	9.8004272	1551	10.1995728	15833.348	50	108146.118	9.9109507
116318.039	9.8005823	1549	10.1994177	15827.697	49	118150.958	9.9112087
126320.293	9.8007372	1549	10.1992623	15822.051	48	128155.801	9.9114666
136322.547	9.8008921	1547	10.1991079	15816.411	47	138160.646	9.9117245
146324.800	9.8010468	1547	10.1989532	15810.776	46	148165.493	9.9119824
156327.053	9.8012015	1546	10.1987985	15805.146	45	158170.343	9.9122403
166329.305	9.8013561	1545	10.1986439	15799.521	44	168175.195	9.9124981
176331.557	9.8015106	1543	10.1984894	15793.902	43	178180.049	9.9127559
186333.808	9.8016649	1543	10.1983351	15788.289	42	188184.905	9.9130137
196336.059	9.8018192	1543	10.1981808	15782.680	41	198189.764	9.9132714
206338.309	9.8019735	1541	10.1980265	15777.077	40	208194.625	9.9135291
216340.559	9.8021276	1540	10.1978724	15771.479	39	218199.488	9.9137868
226342.808	9.8022816	1539	10.1977184	15765.887	38	228204.354	9.9140444
236345.057	9.8024355	1539	10.1975645	15760.300	37	238209.222	9.9143020
246347.305	9.8025894	1537	10.1974106	15754.718	36	248214.093	9.9145596
256349.553	9.8027431	1537	10.1972569	15749.141	35	258218.965	9.9148171
266351.800	9.8028968	1536	10.1971032	15743.570	34	268223.840	9.9150747
276354.046	9.8030504	1534	10.1969496	15738.004	33	278228.718	9.9153322
286356.292	9.8032038	1534	10.1967962	15732.443	32	288233.597	9.9155896
296358.537	9.8033572	1533	10.1966428	15726.887	31	298238.479	9.9158471
306360.782	9.8035105	1532	10.1964895	15721.337	30	308243.364	9.9161045
316363.026	9.8036637	1531	10.1963363	15715.792	29	318248.251	9.9163618
326365.270	9.8038168	1531	10.1961832	15710.252	28	328253.140	9.9166192
336367.513	9.8039699	1529	10.1960301	15704.717	27	338258.031	9.9168765
346369.756	9.8041228	1529	10.1958772	15699.188	26	348262.925	9.9171338
356371.998	9.8042757	1527	10.1957243	15693.664	25	358267.821	9.9173911
366374.240	9.8044284	1527	10.1955716	15688.145	24	368272.719	9.9176483
376376.481	9.8045811	1525	10.1954189	15682.631	23	378277.620	9.9179055
386378.721	9.8047336	1525	10.1952664	15677.123	22	388282.523	9.9181627
396380.961	9.8048861	1524	10.1951139	15671.619	21	398287.429	9.9184198
406383.200	9.8050385	1523	10.1949615	15666.121	20	408292.337	9.9186769
416385.440	9.8051908	1522	10.1948092	15660.628	19	418297.247	9.9189340
426387.678	9.8053430	1521	10.1946570	15655.141	18	428302.160	9.9191911
436389.916	9.8054951	1521	10.1945049	15649.658	17	438307.075	9.9194481
446392.153	9.8056472	1519	10.1943528	15644.181	16	448311.992	9.9197051
456394.390	9.8057991	1519	10.1942009	15638.708	15	458316.912	9.9199621
466396.625	9.8059510	1517	10.1940490	15633.241	14	468321.834	9.9202191
476398.862	9.8061027	1517	10.1938973	15627.779	13	478326.759	9.9204760
486401.097	9.8062544	1516	10.1937456	15622.322	12	488331.686	9.9207329
496403.332	9.8064060	1515	10.1935940	15616.870	11	498336.615	9.9209898
506405.566	9.8065575	1514	10.1934425	15611.424	10	508341.547	9.9212466
516407.799	9.8067089	1513	10.1932911	15605.982	9	518346.481	9.9215034
526410.032	9.8068602	1512	10.1931398	15600.546	8	528351.418	9.9217602
536412.264	9.8070114	1512	10.1929886	15595.115	7	538356.357	9.9220170
546414.496	9.8071626	1510	10.1928374	15589.689	6	548361.298	9.9222737
556416.727	9.8073136	1510	10.1926864	15584.267	5	558366.242	9.9225304
566418.958	9.8074646	1508	10.1925354	15578.851	4	568371.188	9.9227871
576421.188	9.8076154	1508	10.1923846	15573.441	3	578376.136	9.9230437
586423.418	9.8077662	1507	10.1922338	15568.035	2	588381.087	9.9233004
596425.647	9.8079169	1506	10.1920831	15562.634	1	598386.040	9.9235570
606427.876	9.8080675		10.1919325	15557.238	0	608390.996	9.9238135
		Diff.	L. Sec.	N. Sec.	50		Diff.

			39	N. Sec.	L. Sec.	Diff.			
10.0916308	12348.972	60	0	12867.594	10.1094974		9.8905026	7771.460	
10.0913725	12341.629	59	1	12870.628	10.1095997	1023	9.8904003	7769.629	59
10.0911142	12334.292	58	2	12873.663	10.1097021	1024	9.8902979	7767.797	58
10.0908560	12326.961	57	3	12876.700	10.1098046	1025	9.8901954	7765.965	57
10.0905978	12319.634	56	4	12879.740	10.1099071	1026	9.8900929	7764.132	56
10.0903397	12312.313	55	5	12882.782	10.1100097	1026	9.8899903	7762.298	55
10.0900815	12304.997	54	6	12885.827	10.1101123	1026	9.8898877	7760.464	54
10.0898234	12297.687	53	7	12888.875	10.1102150	1027	9.8897850	7758.629	53
10.0895653	12290.381	52	8	12891.925	10.1103178	1028	9.8896822	7756.794	52
10.0893073	12283.081	51	9	12894.977	10.1104206	1028	9.8895794	7754.958	51
10.0890493	12275.786	50	10	12898.032	10.1105235	1029	9.8894765	7753.121	50
10.0887913	12268.496	49	11	12901.090	10.1106264	1029	9.8893736	7751.283	49
10.0885334	12261.211	48	12	12904.150	10.1107294	1030	9.8892706	7749.445	48
10.0882755	12253.932	47	13	12907.213	10.1108325	1031	9.8891675	7747.605	47
10.0880176	12246.658	46	14	12910.278	10.1109356	1031	9.8890644	7745.767	46
10.0877597	12239.389	45	15	12913.346	10.1110388	1032	9.8889612	7743.927	45
10.0875019	12232.125	44	16	12916.416	10.1111420	1033	9.8888580	7742.086	44
10.0872441	12224.866	43	17	12919.489	10.1112453	1034	9.8887547	7740.244	43
10.0869863	12217.613	42	18	12922.564	10.1113487	1034	9.8886513	7738.402	42
10.0867286	12210.364	41	19	12925.642	10.1114521	1034	9.8885479	7736.559	41
10.0864709	12203.121	40	20	12928.723	10.1115556	1035	9.8884444	7734.716	40
10.0862132	12195.883	39	21	12931.806	10.1116592	1036	9.8883408	7732.872	39
10.0859556	12188.650	38	22	12934.892	10.1117628	1036	9.8882372	7731.027	38
10.0856980	12181.422	37	23	12937.980	10.1118665	1037	9.8881335	7729.182	37
10.0854404	12174.199	36	24	12941.071	10.1119702	1037	9.8880298	7727.336	36
10.0851829	12166.982	35	25	12944.164	10.1120740	1038	9.8879260	7725.489	35
10.0849253	12159.769	34	26	12947.260	10.1121779	1039	9.8878221	7723.642	34
10.0846678	12152.562	33	27	12950.359	10.1122818	1039	9.8877184	7721.794	33
10.0844104	12145.359	32	28	12953.460	10.1123858	1040	9.8876144	7719.945	32
10.0841529	12138.163	31	29	12956.564	10.1124898	1040	9.8875102	7718.096	31
10.0838955	12130.970	30	30	12959.670	10.1125939	1041	9.8874061	7716.246	30
10.0836382	12123.783	29	31	12962.779	10.1126981	1042	9.8873019	7714.395	29
10.0833808	12116.601	28	32	12965.890	10.1128023	1042	9.8871977	7712.544	28
10.0831235	12109.424	27	33	12969.004	10.1129066	1043	9.8870934	7710.692	27
10.0828662	12102.252	26	34	12972.121	10.1130110	1044	9.8869890	7708.839	26
10.0826089	12095.085	25	35	12975.240	10.1131154	1044	9.8868846	7706.986	25
10.0823517	12087.927	24	36	12978.362	10.1132199	1045	9.8867801	7705.132	24
10.0820945	12080.767	23	37	12981.487	10.1133244	1045	9.8866756	7703.278	23
10.0818373	12073.615	22	38	12984.614	10.1134290	1046	9.8865710	7701.423	22
10.0815800	12066.468	21	39	12987.744	10.1135337	1047	9.8864663	7699.567	21
10.0813221	12059.327	20	40	12990.876	10.1136384	1048	9.8863616	7697.710	20
10.0810660	12052.190	19	41	12994.011	10.1137432	1048	9.8862568	7695.853	19
10.0808089	12045.058	18	42	12997.148	10.1138481	1049	9.8861519	7693.995	18
10.0805519	12037.931	17	43	13000.288	10.1139530	1049	9.8860470	7692.137	17
10.0802949	12030.810	16	44	13003.431	10.1140580	1050	9.8859420	7690.278	16
10.0800379	12023.693	15	45	13006.576	10.1141630	1051	9.8858370	7688.418	15
10.0797809	12016.581	14	46	13009.724	10.1142681	1052	9.8857319	7686.558	14
10.0795240	12009.475	13	47	13012.875	10.1143733	1052	9.8856267	7684.697	13
10.0792671	12002.373	12	48	13016.028	10.1144785	1053	9.8855215	7682.835	12
10.0790102	11995.276	11	49	13019.184	10.1145838	1053	9.8854162	7680.973	11
10.0787534	11988.184	10	50	13022.343	10.1146891	1054	9.8853109	7679.110	10
10.0784966	11981.097	9	51	13025.504	10.1147945	1055	9.8852055	7677.246	9
10.0782398	11974.015	8	52	13028.668	10.1149000	1055	9.8851000	7675.382	8
10.0779830	11966.938	7	53	13031.834	10.1150055	1056	9.8849945	7673.517	7
10.0777263	11959.866	6	54	13035.003	10.1151111	1057	9.8848889	7671.651	6
10.0774696	11952.799	5	55	13038.175	10.1152168	1057	9.8847832	7669.785	5
10.0772129	11945.736	4	56	13041.349	10.1153225	1058	9.8846775	7667.918	4
10.0769563	11938.675	3	57	13044.526	10.1154283	1058	9.8845717	7666.051	3
10.0766996	11931.626	2	58	13047.706	10.1155341	1060	9.8844659	7664.183	2
10.0764430	11924.579	1	59	13050.888	10.1156401	1059	9.8843599	7662.314	1
10.0761865	11917.536	0	60	13054.073	10.1157460		9.8842540	7660.444	0
L. Tang.	N. Tan.	50					D. L. Sin.	N. Sin.	50

40	N. Sin.	L. Sin.	Diff				41	N. Tan.	L. Tan.	Diff
0	6427.876	9.8080675	1505	10.1919325	15557.238	00	0	3390.996	9.9238135	2566
1	6430.104	9.8081180	1504	10.1917820	15551.848	59	1	3395.954	9.9240701	2565
2	6432.332	9.8081684	1504	10.1916316	15546.462	58	2	3400.915	9.9243266	2565
3	6434.559	9.8082188	1502	10.1914812	15541.081	57	3	3405.878	9.9245831	2565
4	6436.785	9.8082690	1502	10.1913310	15535.706	56	4	3410.844	9.9248396	2565
5	6439.011	9.8083192	1500	10.1911808	15530.335	55	5	3415.812	9.9250961	2564
6	6441.236	9.8083692	1500	10.1910308	15524.970	54	6	3420.782	9.9253524	2564
7	6443.461	9.8084192	1499	10.1908808	15519.609	53	7	3425.755	9.9256088	2564
8	6445.685	9.8084691	1498	10.1907309	15514.254	52	8	3430.730	9.9258652	2564
9	6447.909	9.8085189	1497	10.1905811	15508.904	51	9	3435.708	9.9261215	2563
10	6450.132	9.8085686	1496	10.1904314	15503.558	50	10	3440.688	9.9263778	2563
11	6452.355	9.8086182	1496	10.1902818	15498.218	49	11	3445.670	9.9266341	2563
12	6454.577	9.8086679	1494	10.1901322	15492.882	48	12	3450.655	9.9268904	2563
13	6456.798	9.8100172	1494	10.1899828	15487.552	47	13	3455.643	9.9271466	2562
14	6459.019	9.8101666	1493	10.1898334	15482.226	46	14	3460.633	9.9274028	2562
15	6461.240	9.8103159	1491	10.1896841	15476.906	45	15	3465.625	9.9276590	2562
16	6463.460	9.8104650	1491	10.1895350	15471.590	44	16	3470.620	9.9279152	2562
17	6465.679	9.8106141	1490	10.1893859	15466.280	43	17	3475.617	9.9281713	2561
18	6467.898	9.8107631	1490	10.1892369	15460.974	42	18	3480.617	9.9284274	2561
19	6470.116	9.8109121	1488	10.1890879	15455.673	41	19	3485.619	9.9286835	2561
20	6472.334	9.8110609	1487	10.1889391	15450.378	40	20	3490.624	9.9289396	2561
21	6474.551	9.8112096	1487	10.1887904	15445.087	39	21	3495.631	9.9291956	2560
22	6476.767	9.8113583	1486	10.1886417	15439.801	38	22	3500.640	9.9294516	2560
23	6478.983	9.8115069	1485	10.1884931	15434.520	37	23	3505.652	9.9297076	2560
24	6481.199	9.8116554	1484	10.1883446	15429.244	36	24	3510.667	9.9299636	2560
25	6483.414	9.8118038	1483	10.1881962	15423.973	35	25	3515.684	9.9302195	2559
26	6485.628	9.8119521	1482	10.1880479	15418.706	34	26	3520.704	9.9304755	2559
27	6487.842	9.8121003	1481	10.1878997	15413.445	33	27	3525.726	9.9307314	2559
28	6490.055	9.8122484	1481	10.1877516	15408.189	32	28	3530.750	9.9309872	2558
29	6492.268	9.8123965	1479	10.1876035	15402.937	31	29	3535.777	9.9312431	2558
30	6494.480	9.8125444	1479	10.1874556	15397.690	30	30	3540.807	9.9314989	2558
31	6496.692	9.8126923	1478	10.1873077	15392.449	29	31	3545.839	9.9317547	2558
32	6498.903	9.8128401	1477	10.1871599	15387.212	28	32	3550.873	9.9320105	2558
33	6501.114	9.8129878	1476	10.1870122	15381.980	27	33	3555.910	9.9322663	2557
34	6503.324	9.8131354	1475	10.1868646	15376.752	26	34	3560.950	9.9325220	2557
35	6505.533	9.8132830	1474	10.1867171	15371.530	25	35	3565.992	9.9327777	2557
36	6507.742	9.8134303	1474	10.1865697	15366.312	24	36	3571.037	9.9330334	2557
37	6509.950	9.8135777	1473	10.1864223	15361.100	23	37	3576.084	9.9332890	2556
38	6512.158	9.8137250	1471	10.1862750	15355.892	22	38	3581.133	9.9335446	2556
39	6514.366	9.8138721	1471	10.1861279	15350.689	21	39	3586.185	9.9338003	2556
40	6516.572	9.8140192	1470	10.1859808	15345.491	20	40	3591.240	9.9340559	2556
41	6518.778	9.8141662	1469	10.1858338	15340.297	19	41	3596.297	9.9343114	2555
42	6520.984	9.8143131	1469	10.1856869	15335.109	18	42	3601.357	9.9345670	2555
43	6523.189	9.8144600	1467	10.1855400	15329.925	17	43	3606.419	9.9348225	2555
44	6525.394	9.8146067	1467	10.1853933	15324.746	16	44	3611.484	9.9350780	2555
45	6527.598	9.8147531	1465	10.1852466	15319.572	15	45	3616.551	9.9353335	2555
46	6529.801	9.8148999	1465	10.1851001	15314.403	14	46	3621.621	9.9355889	2554
47	6532.004	9.8150464	1464	10.1849536	15309.238	13	47	3626.693	9.9358444	2554
48	6534.206	9.8151928	1464	10.1848072	15304.078	12	48	3631.768	9.9360998	2554
49	6536.408	9.8153391	1463	10.1846609	15298.923	11	49	3636.846	9.9363553	2554
50	6538.609	9.8154854	1461	10.1845146	15293.773	10	50	3641.926	9.9366107	2553
51	6540.810	9.8156315	1461	10.1843685	15288.627	9	51	3647.009	9.9368659	2553
52	6543.010	9.8157776	1459	10.1842224	15283.487	8	52	3652.094	9.9371212	2553
53	6545.209	9.8159235	1459	10.1840765	15278.351	7	53	3657.181	9.9373766	2553
54	6547.408	9.8160694	1458	10.1839306	15273.219	6	54	3662.271	9.9376318	2553
55	6549.606	9.8162152	1457	10.1837848	15268.093	5	55	3667.364	9.9378871	2553
56	6551.804	9.8163609	1457	10.1836391	15262.971	4	56	3672.460	9.9381423	2552
57	6554.001	9.8165066	1455	10.1834934	15257.854	3	57	3677.558	9.9383975	2552
58	6556.198	9.8166521	1454	10.1833479	15252.741	2	58	3682.659	9.9386527	2552
59	6558.394	9.8167975	1454	10.1832025	15247.634	1	59	3687.762	9.9389079	2552
60	6560.590	9.8169429	1454	10.1830571	15242.531	0	60	3692.868	9.9391631	2552
			Diff	L. Sec.	N. Sec.	49				Diff

		40. N. Sec.	L. Sec.	Diff.		
10.0761865	11917.530	00	10.1157460	1061	9.8842540	7660.444
10.0759229	11910.498	59	10.1158521	1061	9.8841479	7658.574
10.0756734	11903.465	58	10.1159582	1061	9.8840418	7656.703
10.0754169	11896.432	57	10.1160643	1061	9.8839357	7654.832
10.0751604	11889.414	56	10.1161706	1062	9.8838294	7652.960
10.0749040	11882.395	55	10.1162768	1064	9.8837232	7651.087
10.0746476	11875.382	54	10.1163832	1064	9.8836168	7649.214
10.0743912	11868.373	53	10.1164896	1065	9.8835104	7647.340
10.0741348	11861.369	52	10.1165961	1065	9.8834039	7645.465
10.0738785	11854.370	51	10.1167026	1066	9.8832974	7643.590
10.0736222	11847.376	50	10.1168092	1067	9.8831908	7641.714
10.0733659	11840.387	49	10.1169159	1067	9.8830841	7639.837
10.0731096	11833.400	48	10.1170226	1068	9.8829774	7637.960
10.0728534	11826.422	47	10.1171294	1068	9.8828706	7636.082
10.0725972	11819.447	46	10.1172362	1070	9.8827638	7634.204
10.0723410	11812.477	45	10.1173432	1069	9.8826568	7632.325
10.0720848	11805.512	44	10.1174501	1071	9.8825495	7630.445
10.0718287	11798.551	43	10.1175572	1071	9.8824428	7628.564
10.0715726	11791.595	42	10.1176643	1072	9.8823355	7626.683
10.0713165	11784.644	41	10.1177715	1072	9.8822285	7624.801
10.0710604	11777.698	40	10.1178787	1073	9.8821213	7622.919
10.0708044	11770.751	39	10.1179860	1073	9.8820140	7621.038
10.0705484	11763.820	38	10.1180933	1075	9.8819067	7619.152
10.0702924	11756.888	37	10.1182008	1074	9.8817992	7617.268
10.0700364	11749.960	36	10.1183082	1076	9.8816918	7615.383
10.0697805	11743.038	35	10.1184158	1076	9.8815842	7613.497
10.0695245	11736.120	34	10.1185234	1077	9.8814766	7611.611
10.0692686	11729.207	33	10.1186311	1077	9.8813689	7609.724
10.0690126	11722.298	32	10.1187388	1078	9.8812614	7607.837
10.0687569	11715.395	31	10.1188466	1079	9.8811534	7605.948
10.0685011	11708.496	30	10.1189545	1079	9.8810455	7604.060
10.0682453	11701.601	29	10.1190624	1080	9.8809376	7602.170
10.0679895	11694.712	28	10.1191704	1081	9.8808296	7600.280
10.0677338	11687.827	27	10.1192785	1081	9.8807215	7598.389
10.0674780	11680.947	26	10.1193866	1082	9.8806134	7596.498
10.0672223	11674.071	25	10.1194948	1082	9.8805052	7594.606
10.0669666	11667.200	24	10.1196030	1083	9.8803970	7592.713
10.0667110	11660.334	23	10.1197113	1084	9.8802887	7590.820
10.0664554	11653.472	22	10.1198197	1084	9.8801803	7588.926
10.0661997	11646.615	21	10.1199281	1085	9.8800719	7587.031
10.0659441	11639.763	20	10.1200366	1086	9.8799634	7585.136
10.0656886	11632.916	19	10.1201452	1086	9.8798548	7583.240
10.0654330	11626.073	18	10.1202538	1087	9.8797462	7581.343
10.0651775	11619.234	17	10.1203625	1088	9.8796375	7579.446
10.0649220	11612.400	16	10.1204713	1088	9.8795287	7577.548
10.0646665	11605.571	15	10.1205801	1089	9.8794199	7575.650
10.0644111	11598.747	14	10.1206890	1089	9.8793110	7573.751
10.0641556	11591.927	13	10.1207979	1089	9.8792021	7571.851
10.0639002	11585.111	12	10.1209070	1091	9.8790930	7569.950
10.0636448	11578.301	11	10.1210160	1090	9.8789840	7568.049
10.0633895	11571.495	10	10.1211252	1092	9.8788748	7566.147
10.0631341	11564.693	9	10.1212344	1092	9.8787656	7564.245
10.0628788	11557.896	8	10.1213437	1093	9.8786563	7562.342
10.0626235	11551.104	7	10.1214530	1093	9.8785470	7560.439
10.0623682	11544.316	6	10.1215624	1094	9.8784376	7558.535
10.0621125	11537.532	5	10.1216715	1095	9.8783281	7556.630
10.0618577	11530.754	4	10.1217814	1095	9.8782186	7554.724
10.0616025	11523.975	3	10.1218910	1096	9.8781090	7552.818
10.0613473	11517.210	2	10.1220006	1096	9.8779994	7550.911
10.0610921	11510.445	1	10.1221104	1096	9.8778896	7549.004
10.0608369	11503.684	0	10.1222201	1097	9.8777799	7547.096
L. Tan.	N. Tan.	49		Diff.	L. Sin.	N. Sin.

41	N. Sin.	L. Sin.	Diff.			41	N. Tan.	L. Tan.	Diff.
0	6560.590	9.8169429		10.1830571	15242.53160	0	8692.868	9.9391631	
1	6562.785	9.8170882	1453	10.1829118	15237.43359	1	8697.976	9.9394182	2551
2	6564.980	9.8172334	1452	10.1827666	15232.33958	2	8703.087	9.9396733	2551
3	6567.174	9.8173785	1451	10.1826215	15227.25057	3	8708.200	9.9399284	2551
4	6569.367	9.8175235	1450	10.1824765	15222.16656	4	8713.316	9.9401835	2551
5	6571.560	9.8176685	1450	10.1823315	15217.08755	5	8718.435	9.9404385	2550
6	6573.752	9.8178133	1448	10.1821867	15212.01254	6	8723.556	9.9406936	2551
7	6575.944	9.8179581	1448	10.1820419	15206.94253	7	8728.680	9.9409486	2550
8	6578.135	9.8181028	1447	10.1818972	15201.87652	8	8733.806	9.9412036	2550
9	6580.326	9.8182474	1446	10.1817526	15196.81551	9	8738.935	9.9414585	2549
10	6582.516	9.8183919	1445	10.1816081	15191.75950	10	8744.067	9.9417135	2550
11	6584.706	9.8185364	1445	10.1814636	15186.70849	11	8749.201	9.9419684	2549
12	6586.895	9.8186809	1443	10.1813193	15181.66148	12	8754.338	9.9422233	2549
13	6589.083	9.8188250	1443	10.1811750	15176.61947	13	8759.478	9.9424782	2549
14	6591.271	9.8189692	1442	10.1810308	15171.58146	14	8764.620	9.9427331	2549
15	6593.458	9.8191133	1441	10.1808867	15166.54845	15	8769.765	9.9429879	2548
16	6595.645	9.8192573	1440	10.1807427	15161.52044	16	8774.912	9.9432428	2548
17	6597.831	9.8194012	1439	10.1805988	15156.49643	17	8780.062	9.9434976	2548
18	6600.017	9.8195450	1438	10.1804550	15151.47742	18	8785.215	9.9437524	2548
19	6602.202	9.8196888	1438	10.1803112	15146.46241	19	8790.370	9.9440072	2548
20	6604.386	9.8198325	1437	10.1801675	15141.45240	20	8795.528	9.9442619	2547
21	6606.570	9.8199761	1436	10.1800239	15136.44739	21	8800.689	9.9445166	2547
22	6608.753	9.8201196	1435	10.1798804	15131.44638	22	8805.852	9.9447714	2547
23	6610.935	9.8202630	1434	10.1797370	15126.45037	23	8811.018	9.9450261	2547
24	6613.118	9.8204062	1433	10.1795937	15121.45936	24	8816.186	9.9452807	2546
25	6615.300	9.8205496	1433	10.1794504	15116.47235	25	8821.357	9.9455354	2547
26	6617.481	9.8206927	1431	10.1793073	15111.48934	26	8826.531	9.9457900	2546
27	6619.662	9.8208358	1431	10.1791642	15105.51133	27	8831.707	9.9460447	2547
28	6621.842	9.8209788	1430	10.1790212	15101.53832	28	8836.886	9.9462993	2546
29	6624.022	9.8211217	1429	10.1788783	15096.56931	29	8842.068	9.9465539	2546
30	6626.201	9.8212646	1429	10.1787354	15091.60530	30	8847.253	9.9468084	2546
31	6628.379	9.8214073	1427	10.1785927	15086.64529	31	8852.440	9.9470630	2546
32	6630.557	9.8215500	1427	10.1784500	15081.69028	32	8857.630	9.9473175	2545
33	6632.734	9.8216926	1426	10.1783074	15076.73927	33	8862.822	9.9475720	2545
34	6634.911	9.8218351	1425	10.1781649	15071.79326	34	8868.017	9.9478265	2545
35	6637.087	9.8219775	1424	10.1780225	15066.85225	35	8873.215	9.9480810	2545
36	6639.262	9.8221198	1423	10.1778802	15061.91524	36	8878.416	9.9483355	2544
37	6641.437	9.8222621	1423	10.1777379	15056.98223	37	8883.620	9.9485899	2544
38	6643.611	9.8224042	1421	10.1775958	15052.05422	38	8888.826	9.9488443	2544
39	6645.785	9.8225463	1420	10.1774537	15047.13121	39	8894.034	9.9490987	2544
40	6647.959	9.8226883	1420	10.1773117	15042.21120	40	8899.245	9.9493531	2544
41	6650.132	9.8228302	1419	10.1771698	15037.29719	41	8904.459	9.9496075	2544
42	6652.304	9.8229721	1419	10.1770279	15032.38718	42	8909.675	9.9498619	2544
43	6654.475	9.8231138	1417	10.1768862	15027.48117	43	8914.894	9.9501162	2543
44	6656.646	9.8232555	1417	10.1767445	15022.58016	44	8920.116	9.9503705	2543
45	6658.817	9.8233971	1416	10.1766029	15017.68315	45	8925.341	9.9506248	2543
46	6660.987	9.8235386	1415	10.1764614	15012.79114	46	8930.569	9.9508791	2543
47	6663.156	9.8236800	1414	10.1763200	15007.90313	47	8935.799	9.9511334	2543
48	6665.325	9.8238213	1413	10.1761787	15003.02012	48	8941.032	9.9513876	2542
49	6667.493	9.8239626	1413	10.1760374	14998.14011	49	8946.268	9.9516419	2542
50	6669.661	9.8241037	1411	10.1758963	14993.26710	50	8951.506	9.9518961	2542
51	6671.828	9.8242448	1410	10.1757552	14988.39709	51	8956.747	9.9521503	2542
52	6673.994	9.8243858	1409	10.1756142	14983.53108	52	8961.991	9.9524045	2542
53	6676.160	9.8245267	1409	10.1754733	14978.67007	53	8967.238	9.9526587	2541
54	6678.326	9.8246676	1407	10.1753324	14973.81306	54	8972.487	9.9529128	2541
55	6680.491	9.8248083	1407	10.1751917	14968.96105	55	8977.739	9.9531670	2541
56	6682.655	9.8249490	1406	10.1750510	14964.11304	56	8982.994	9.9534211	2541
57	6684.818	9.8250896	1405	10.1749104	14959.27003	57	8988.252	9.9536752	2541
58	6686.981	9.8252301	1404	10.1747699	14954.43002	58	8993.512	9.9539293	2541
59	6689.144	9.8253705	1404	10.1746295	14949.59601	59	8998.775	9.9541834	2540
60	6691.306	9.8255109		10.1744891	14944.76500	60	9004.041	9.9544374	
			Diff.	L. Sec.	N. Sec.				Diff.

			41	N. Sec.	L. Sec.	Diff.			
10.0608369	11503.684	60		13250.130	10.1222201		9.8777799	7547.096	60
10.060818	11496.928	59	1	13253.482	10.1223300	1099	9.8776700	7545.137	59
10.0608267	11490.176	58	2	13256.837	10.1224399	1099	9.8775601	7543.278	58
10.0608716	11483.429	57	3	13260.194	10.1225499	1100	9.8774501	7541.368	57
10.0598165	11476.687	56	4	13263.554	10.1226599	1100	9.8773401	7539.457	56
10.0595615	11469.949	55	5	13266.918	10.1227700	1101	9.8772300	7537.546	55
10.0593064	11463.215	54	6	13270.284	10.1228802	1102	9.8771198	7535.634	54
10.0590514	11456.486	53	7	13273.653	10.1229904	1102	9.8770096	7533.721	53
10.0587964	11449.762	52	8	13277.025	10.1231007	1103	9.8768993	7531.808	52
10.0585415	11443.041	51	9	13280.399	10.1232111	1104	9.8767889	7529.894	51
10.0582865	11436.326	50	10	13283.776	10.1233215	1104	9.8766785	7527.980	50
10.0580316	11429.615	49	11	13287.156	10.1234320	1105	9.8765680	7526.065	49
10.0577767	11422.908	48	12	13290.539	10.1235426	1105	9.8764574	7524.149	48
10.0575218	11416.206	47	13	13293.925	10.1236532	1106	9.8763468	7522.233	47
10.0572669	11409.508	46	14	13297.314	10.1237639	1107	9.8762361	7520.316	46
10.0570121	11402.815	45	15	13300.706	10.1238747	1108	9.8761253	7518.398	45
10.0567572	11396.126	44	16	13304.100	10.1239855	1108	9.8760145	7516.480	44
10.0565024	11389.441	43	17	13307.497	10.1240964	1109	9.8759036	7514.561	43
10.0562476	11382.761	42	18	13310.897	10.1242073	1109	9.8757927	7512.641	42
10.0559928	11376.085	41	19	13314.300	10.1243184	1111	9.8756816	7510.721	41
10.0557381	11369.414	40	20	13317.706	10.1244294	1110	9.8755706	7508.800	40
10.0554834	11362.747	39	21	13321.115	10.1245406	1112	9.8754594	7506.879	39
10.0552286	11356.085	38	22	13324.527	10.1246518	1112	9.8753482	7504.957	38
10.0549739	11349.427	37	23	13327.942	10.1247631	1113	9.8752369	7503.034	37
10.0547193	11342.773	36	24	13331.359	10.1248744	1113	9.8751256	7501.111	36
10.0544646	11336.124	35	25	13334.779	10.1249858	1114	9.8750142	7499.187	35
10.0542100	11329.479	34	26	13338.202	10.1250973	1115	9.8749027	7497.262	34
10.0539553	11322.839	33	27	13341.628	10.1252088	1115	9.8747912	7495.337	33
10.0537007	11316.203	32	28	13345.057	10.1253205	1117	9.8746795	7493.411	32
10.0534461	11309.571	31	29	13348.489	10.1254321	1116	9.8745679	7491.484	31
10.0531916	11302.944	30	30	13351.924	10.1255439	1118	9.8744561	7489.557	30
10.0529370	11296.321	29	31	13355.362	10.1256557	1118	9.8743443	7487.629	29
10.0526825	11289.702	28	32	13358.803	10.1257675	1118	9.8742325	7485.701	28
10.0524280	11283.088	27	33	13362.246	10.1258795	1120	9.8741205	7483.772	27
10.0521735	11276.478	26	34	13365.692	10.1259915	1120	9.8740085	7481.842	26
10.0519190	11269.872	25	35	13369.141	10.1261035	1120	9.8738965	7479.912	25
10.0516645	11263.271	24	36	13372.594	10.1262156	1121	9.8737844	7477.981	24
10.0514101	11256.674	23	37	13376.049	10.1263278	1122	9.8736722	7476.049	23
10.0511557	11250.081	22	38	13379.507	10.1264401	1123	9.8735600	7474.117	22
10.0509013	11243.493	21	39	13382.968	10.1265524	1123	9.8734476	7472.184	21
10.0506469	11236.909	20	40	13386.432	10.1266648	1124	9.8733352	7470.251	20
10.0503925	11230.329	19	41	13389.899	10.1267773	1125	9.8732227	7468.317	19
10.0501381	11223.754	18	42	13393.369	10.1268898	1125	9.8731102	7466.382	18
10.0498838	11217.183	17	43	13396.842	10.1270024	1126	9.8729976	7464.446	17
10.0496295	11210.616	16	44	13400.317	10.1271151	1127	9.8728849	7462.510	16
10.0493752	11204.053	15	45	13403.795	10.1272278	1127	9.8727722	7460.574	15
10.0491209	11197.495	14	46	13407.276	10.1273406	1128	9.8726594	7458.637	14
10.0488666	11190.941	13	47	13410.761	10.1274534	1128	9.8725466	7456.699	13
10.0486124	11184.391	12	48	13414.248	10.1275663	1129	9.8724337	7454.760	12
10.0483581	11177.846	11	49	13417.738	10.1276793	1130	9.8723207	7452.821	11
10.0481039	11171.305	10	50	13421.232	10.1277924	1131	9.8722076	7450.881	10
10.0478497	11164.768	9	51	13424.728	10.1279055	1131	9.8720945	7448.940	9
10.0475955	11158.235	8	52	13428.227	10.1280187	1132	9.8719813	7446.999	8
10.0473413	11151.706	7	53	13431.729	10.1281319	1132	9.8718681	7445.057	7
10.0470872	11145.182	6	54	13435.234	10.1282452	1133	9.8717548	7443.115	6
10.0468330	11138.662	5	55	13438.742	10.1283586	1134	9.8716414	7441.172	5
10.0465789	11132.146	4	56	13442.253	10.1284721	1135	9.8715279	7439.229	4
10.0463248	11125.633	3	57	13445.767	10.1285856	1135	9.8714144	7437.285	3
10.0460707	11119.127	2	58	13449.284	10.1286992	1136	9.8713008	7435.340	2
10.0458166	11112.624	1	59	13452.804	10.1288128	1136	9.8711872	7433.394	1
10.0455626	11106.125	0	60	13456.327	10.1289265	1137	9.8710735	7431.448	0
L. Tan.	N. Tan.	48				Diff.	L. Sin.	N. Sin.	4

4 2 N. Sin.	L. Sin.	Diff.			42 N. Tan.	L. Tan.	Diff.
6691.206	9.8255109		10.1744891	14944.76560	9.9004.041	9.9544374	
16693.467	9.8256512	140	10.1743488	1439.94059	19009.309	9.9546915	2541
26695.618	9.8257913	140	10.1742087	14735.11858	25014.580	9.9549455	2540
36697.788	9.8259314	140	10.1740686	14930.30157	30019.854	9.9551995	2540
46699.948	9.8260715	140	10.1739285	14925.48556	40025.131	9.9554535	2540
56702.107	9.8262114	139	10.1737884	14920.68055	50030.411	9.9557075	2540
66704.266	9.8263512	139	10.1736483	14915.87554	60035.694	9.9559615	2540
76706.424	9.8264910	139	10.1735082	14911.07053	70040.979	9.9562154	2539
86708.582	9.8266307	139	10.1733681	14906.26552	80046.267	9.9564694	2539
96710.739	9.8267703	139	10.1732280	14901.46051	90051.558	9.9567233	2539
106712.895	9.8269098	139	10.1730879	14896.65550	100056.851	9.9569772	2539
116715.051	9.8270493	139	10.1729478	14891.85049	110062.147	9.9572311	2539
126717.206	9.8271887	139	10.1728077	14887.04548	120067.446	9.9574850	2539
136719.361	9.8273279	139	10.1726676	14882.24047	130072.748	9.9577389	2539
146721.515	9.8274671	139	10.1725275	14877.43546	140078.053	9.9579927	2538
156723.668	9.8276066	139	10.1723874	14872.63045	150083.360	9.9582465	2538
166725.821	9.8277459	139	10.1722473	14867.82544	160088.671	9.9585004	2538
176727.973	9.8278854	139	10.1721072	14863.02043	170093.984	9.9587542	2538
186730.125	9.8280251	138	10.1719671	14858.21542	180099.300	9.9590080	2538
196732.276	9.8281649	138	10.1718270	14853.41041	190104.619	9.9592618	2538
206734.427	9.8283046	138	10.1716869	14848.60540	200109.945	9.9595155	2538
216736.577	9.8284439	138	10.1715468	14843.80039	210115.265	9.9597693	2538
226738.727	9.8285832	138	10.1714067	14839.00038	220120.592	9.9600230	2537
236740.876	9.8287225	138	10.1712666	14834.20037	230125.922	9.9602767	2537
246743.024	9.8288617	138	10.1711265	14829.40036	240131.255	9.9605305	2537
256745.172	9.8289999	138	10.1710070	14824.60035	250136.591	9.9607842	2537
266747.319	9.8291382	138	10.1708688	14819.80034	260141.929	9.9610378	2537
276749.466	9.8292764	138	10.1707306	14815.00033	270147.270	9.9612915	2537
286751.612	9.8294147	138	10.1705925	14810.20032	280152.615	9.9615452	2537
296753.757	9.8295529	137	10.1704544	14805.40031	290157.962	9.9617988	2537
306755.902	9.8296913	137	10.1703167	14800.60030	300163.312	9.9620525	2537
316758.046	9.8298296	137	10.1701788	14795.80029	310168.665	9.9623061	2536
326760.190	9.8299679	137	10.1700411	14791.00028	320174.020	9.9625597	2536
336762.333	9.8301062	137	10.1699034	14786.20027	330179.379	9.9628133	2536
346764.476	9.8302445	137	10.1697657	14781.40026	340184.740	9.9630669	2536
356766.618	9.8303828	137	10.1696280	14776.60025	350190.104	9.9633204	2535
366768.760	9.8305211	137	10.1694903	14771.80024	360195.471	9.9635740	2535
376770.901	9.8306594	137	10.1693526	14767.00023	370200.841	9.9638275	2535
386773.041	9.8307977	137	10.1692149	14762.20022	380206.214	9.9640811	2535
396775.181	9.8309360	137	10.1690772	14757.40021	390211.590	9.9643346	2535
406777.320	9.8310743	137	10.1689395	14752.60020	400216.968	9.9645881	2535
416779.459	9.8312126	137	10.1688018	14747.80019	410222.350	9.9648416	2535
426781.597	9.8313509	136	10.1686641	14743.00018	420227.734	9.9650951	2535
436783.734	9.8314892	136	10.1685264	14738.20017	430233.122	9.9653486	2535
446785.871	9.8316275	136	10.1683887	14733.40016	440238.512	9.9656020	2534
456788.007	9.8317658	136	10.1682510	14728.60015	450243.905	9.9658555	2534
466790.143	9.8319041	136	10.1681133	14723.80014	460249.301	9.9661089	2534
476792.278	9.8320424	136	10.1679756	14719.00013	470254.700	9.9663623	2534
486794.413	9.8321807	136	10.1678379	14714.20012	480260.101	9.9666157	2534
496796.547	9.8323190	136	10.1677002	14709.40011	490265.506	9.9668692	2534
506798.681	9.8324573	136	10.1675625	14704.60010	500270.914	9.9671225	2534
516800.814	9.8325956	136	10.1674248	14700.00009	510276.324	9.9673759	2534
526802.946	9.8327339	136	10.1672871	14695.40008	520281.738	9.9676293	2534
536805.078	9.8328722	136	10.1671494	14690.80007	530287.154	9.9678827	2534
546807.209	9.8330105	136	10.1670117	14686.20006	540292.573	9.9681360	2533
556809.339	9.8331488	135	10.1668740	14681.60005	550297.996	9.9683893	2533
566811.469	9.8332871	135	10.1667363	14677.00004	560303.421	9.9686427	2533
576813.599	9.8334254	135	10.1665986	14672.40003	570308.849	9.9688960	2533
586815.728	9.8335637	135	10.1664609	14667.80002	580314.280	9.9691493	2533
596817.856	9.8337020	135	10.1663232	14663.20001	590319.714	9.9694026	2533
606819.984	9.8338403	135	10.1661855	14658.60000	600325.151	9.9696559	2533
		Diff.	L. Sec.	N. Sec.			Diff.

			N. Sec.	L. Sec.	Dir		
10.015562	11106.125	60	13155.27	10.128926	1136	9.8710735	7431.44
10.0453085	11099.630	59	13459.853	10.1290403	1135	9.870959	7429.50
10.0450545	11093.130	58	13463.382	10.1291542	1135	9.8708456	7427.55
10.0448005	11086.630	57	13466.914	10.1292681	1135	9.8707313	7425.60
10.0445465	11080.171	56	13470.445	10.1293821	1140	9.8706175	7423.65
10.0442925	11073.693	55	13473.981	10.1294961	1140	9.8705038	7421.70
10.0440385	11067.219	54	13477.528	10.1296102	1141	9.8703898	7419.75
10.0437846	11060.750	53	13481.072	10.1297244	1142	9.8702756	7417.80
10.0435306	11054.284	52	13484.619	10.1298387	1144	9.8701613	7415.85
10.0432767	11047.823	51	13488.169	10.1299530	1144	9.8700470	7413.90
10.0430228	11041.365	50	13491.721	10.1300673	1144	9.8699326	7411.95
10.0427689	11034.912	49	13495.277	10.1301818	1144	9.8698182	7410.00
10.0425150	11028.463	48	13498.836	10.130296	1145	9.8697037	7408.04
10.0422611	11022.019	47	13502.398	10.1304109	1146	9.8695891	7406.09
10.0420073	11015.578	46	13505.953	10.1305250	1147	9.8694744	7404.13
10.0417535	11009.141	45	13509.531	10.1306403	1147	9.8693597	7402.18
10.0414996	11002.709	44	13513.102	10.1307551	1148	9.8692449	7400.22
10.0412458	10996.281	43	13516.676	10.1308699	1148	9.8691301	7398.26
10.0409920	10989.856	42	13520.254	10.130984	1149	9.8690152	7396.31
10.0407382	10983.436	41	13523.834	10.1310995	1150	9.8689002	7394.35
10.0404845	10977.020	40	13527.417	10.1312141	1151	9.8687851	7392.39
10.0402307	10970.608	39	13531.003	10.1313300	1151	9.8686700	7390.43
10.0399770	10964.201	38	13534.593	10.1314452	1152	9.8685548	7388.47
10.0397233	10957.797	37	13538.185	10.1315604	1152	9.8684396	7386.51
10.0394695	10951.397	36	13541.781	10.1316755	1153	9.8683242	7384.55
10.0392155	10944.992	35	13545.379	10.1317912	1153	9.8682088	7382.59
10.0389622	10938.591	34	13548.980	10.1319066	1154	9.8680934	7380.63
10.0387085	10932.193	33	13552.585	10.1320221	1155	9.8679779	7378.66
10.0384548	10925.796	32	13556.193	10.1321377	1155	9.8678623	7376.70
10.0382012	10919.400	31	13559.803	10.1322534	1156	9.8677466	7374.73
10.0379475	10913.005	30	13563.417	10.1323691	1157	9.8676309	7372.77
10.0376939	10906.614	29	13567.034	10.1324849	1158	9.8675151	7370.80
10.0374403	10900.227	28	13570.654	10.1326000	1159	9.8673992	7368.84
10.0371867	10893.843	27	13574.277	10.1327160	1159	9.8672833	7366.87
10.0369331	10887.464	26	13577.903	10.1328327	1160	9.8671673	7364.90
10.0366795	10881.085	25	13581.532	10.1329488	1161	9.8670512	7362.93
10.0364260	10874.710	24	13585.164	10.1330649	1161	9.8669351	7360.97
10.0361725	10868.331	23	13588.800	10.1331811	1162	9.8668199	7359.00
10.0359189	10861.952	22	13592.438	10.1332974	1163	9.8667046	7357.03
10.0356654	10855.573	21	13596.080	10.1334137	1163	9.8665893	7355.06
10.0354119	10849.194	20	13600.725	10.1335301	1164	9.8664739	7353.09
10.0351584	10842.815	19	13604.372	10.1336466	1165	9.8663584	7351.12
10.0349049	10836.436	18	13608.023	10.1337631	1165	9.8662429	7349.14
10.0346514	10830.057	17	13611.677	10.1338797	1166	9.8661273	7347.17
10.0343980	10823.678	16	13615.334	10.1339964	1167	9.8660116	7345.20
10.0341445	10817.299	15	13618.995	10.1341132	1167	9.8658958	7343.23
10.0338911	10810.920	14	13622.658	10.1342300	1168	9.8657790	7341.25
10.0336377	10804.541	13	13626.324	10.1343469	1169	9.8656631	7339.27
10.0333843	10798.162	12	13629.994	10.1344638	1169	9.8655472	7337.29
10.0331308	10791.783	11	13633.667	10.1345808	1170	9.8654312	7335.32
10.0328775	10785.404	10	13637.343	10.1346979	1171	9.8653151	7333.34
10.0326241	10779.025	9	13641.022	10.1348151	1172	9.8652000	7331.36
10.0323707	10772.646	8	13644.704	10.1349323	1172	9.8650849	7329.38
10.0321173	10766.267	7	13648.389	10.1350496	1173	9.8649698	7327.40
10.0318640	10759.888	6	13652.078	10.1351668	1173	9.8648547	7325.42
10.0316107	10753.509	5	13655.770	10.1352842	1175	9.8647396	7323.44
10.0313573	10747.130	4	13659.464	10.1354019	1175	9.8646245	7321.46
10.0311040	10740.751	3	13663.162	10.1355194	1175	9.8645094	7319.48
10.0308507	10734.372	2	13666.863	10.1356371	1177	9.8643943	7317.50
10.0305974	10727.993	1	13670.567	10.1357548	1177	9.8642792	7315.52
10.0303441	10721.614	0	13674.275	10.1358725	1177	9.8641641	7313.53
L. Tan.	N. Tan.	47			Dir	L. Sin.	N. Sin.

3	N. Sin.	L. Sin.	Diff.			43	N. Tan.	L. Tan.	Diff.
0	6819.984	9.8337833		10.1662167	14662.792	60	9325.151	9.9695559	
1	6822.111	9.8339188	1355	10.1660812	14658.220	59	9330.591	9.9695091	2532
2	6824.237	9.8340541	1353	10.1659459	14653.652	58	9336.034	9.9701624	2533
3	6826.363	9.8341894	1353	10.1658106	14649.088	57	9341.479	9.9704157	2533
4	6828.488	9.8343246	1352	10.1656754	14644.529	56	9346.928	9.9706689	2532
5	6830.613	9.8344597	1351	10.1655403	14639.973	55	9352.380	9.9709221	2532
6	6832.737	9.8345948	1351	10.1654052	14635.422	54	9357.834	9.9711754	2532
7	6834.861	9.8347297	1349	10.1652703	14630.875	53	9363.292	9.9714286	2532
8	6836.984	9.8348645	1349	10.1651354	14626.331	52	9368.753	9.9716818	2532
9	6839.107	9.8349994	1348	10.1650006	14621.792	51	9374.216	9.9719350	2532
10	6841.229	9.8351341	1347	10.1648659	14617.257	50	9379.683	9.9721882	2532
11	6843.350	9.8352688	1347	10.1647312	14612.726	49	9385.152	9.9724413	2531
12	6845.471	9.8354033	1345	10.1645967	14608.198	48	9390.625	9.9726945	2531
13	6847.591	9.8355378	1345	10.1644622	14603.675	47	9396.101	9.9729477	2531
14	6849.711	9.8356722	1344	10.1643278	14599.156	46	9401.579	9.9732008	2531
15	6851.830	9.8358066	1344	10.1641934	14594.641	45	9407.061	9.9734539	2531
16	6853.948	9.8359408	1342	10.1640592	14590.130	44	9412.545	9.9737071	2531
17	6856.066	9.8360750	1342	10.1639250	14585.623	43	9418.033	9.9739602	2531
18	6858.183	9.8362091	1341	10.1637909	14581.120	42	9423.523	9.9742133	2531
19	6860.300	9.8363431	1340	10.1636569	14576.621	41	9429.017	9.9744664	2531
20	6862.416	9.8364771	1340	10.1635229	14572.127	40	9434.513	9.9747195	2531
21	6864.532	9.8366109	1338	10.1633881	14567.636	39	9440.013	9.9749726	2531
22	6866.647	9.8367447	1338	10.1632533	14563.149	38	9445.516	9.9752257	2531
23	6868.761	9.8368784	1337	10.1631186	14558.665	37	9451.021	9.9754787	2530
24	6870.875	9.8370121	1337	10.1629879	14554.187	36	9456.530	9.9757318	2531
25	6872.988	9.8371456	1335	10.1628544	14549.712	35	9462.042	9.9759849	2531
26	6875.101	9.8372791	1335	10.1627209	14545.241	34	9467.556	9.9762379	2530
27	6877.213	9.8374125	1334	10.1625875	14540.774	33	9473.074	9.9764909	2531
28	6879.324	9.8375458	1333	10.1624542	14536.311	32	9478.595	9.9767440	2531
29	6881.435	9.8376790	1332	10.1623210	14531.852	31	9484.119	9.9769970	2530
30	6883.545	9.8378122	1332	10.1621878	14527.397	30	9489.646	9.9772500	2530
31	6885.655	9.8379453	1331	10.1620547	14522.946	29	9495.170	9.9775030	2530
32	6887.764	9.8380783	1330	10.1619217	14518.498	28	9500.709	9.9777560	2530
33	6889.873	9.8382112	1329	10.1617888	14514.055	27	9506.245	9.9780090	2530
34	6891.981	9.8383441	1329	10.1616559	14509.616	26	9511.784	9.9782620	2529
35	6894.089	9.8384769	1328	10.1615231	14505.181	25	9517.326	9.9785149	2530
36	6896.196	9.8386096	1327	10.1613904	14500.749	24	9522.871	9.9787679	2530
37	6898.302	9.8387422	1326	10.1612578	14496.322	23	9528.420	9.9790209	2529
38	6900.407	9.8388747	1325	10.1611253	14491.898	22	9533.971	9.9792738	2529
39	6902.512	9.8390072	1325	10.1609928	14487.478	21	9539.526	9.9795268	2529
40	6904.617	9.8391396	1324	10.1608604	14483.063	20	9545.083	9.9797797	2529
41	6906.721	9.8392719	1323	10.1607281	14478.651	19	9550.644	9.9800326	2529
42	6908.824	9.8394041	1322	10.1605959	14474.243	18	9556.208	9.9802856	2529
43	6910.927	9.8395363	1322	10.1604637	14469.839	17	9561.774	9.9805385	2529
44	6913.029	9.8396684	1321	10.1603316	14465.439	16	9567.344	9.9807914	2529
45	6915.131	9.8398004	1320	10.1601996	14461.043	15	9572.917	9.9810443	2529
46	6917.232	9.8399323	1319	10.1600677	14456.651	14	9578.494	9.9812972	2529
47	6919.332	9.8400642	1319	10.1599358	14452.262	13	9584.073	9.9815501	2529
48	6921.432	9.8401959	1317	10.1598041	14447.878	12	9589.655	9.9818030	2529
49	6923.531	9.8403276	1317	10.1596724	14443.497	11	9595.241	9.9820559	2529
50	6925.630	9.8404592	1317	10.1595407	14439.120	10	9600.829	9.9823088	2529
51	6927.728	9.8405908	1315	10.1594092	14434.748	9	9606.421	9.9825616	2529
52	6929.825	9.8407223	1315	10.1592777	14430.379	8	9612.016	9.9828145	2528
53	6931.922	9.8408537	1314	10.1591463	14426.013	7	9617.614	9.9830673	2529
54	6934.018	9.8409850	1313	10.1590150	14421.652	6	9623.215	9.9833202	2528
55	6936.114	9.8411162	1312	10.1588838	14417.295	5	9628.819	9.9835730	2529
56	6938.209	9.8412474	1312	10.1587526	14412.941	4	9634.427	9.9838259	2528
57	6940.304	9.8413785	1311	10.1586215	14408.591	3	9640.037	9.9840787	2528
58	6942.398	9.8415095	1310	10.1584905	14404.246	2	9645.651	9.9843315	2529
59	6944.491	9.8416404	1309	10.1583596	14399.904	1	9651.268	9.9845844	2528
60	6946.584	9.8417713	1309	10.1582287	14395.565	0	9656.888	9.9848372	
			Diff.	L. Sec.	N. Sec.	46			Diff.

		43. N. Sec.	L. Sec.	Diff		
10.0303441	10723.68760	0 13673.275	10.1358725	9.8641275	7313.53760	
10.0300909	10717.43559	1 13676.985	10.1359904	1179 9.8640096	7311.55359	
10.0298376	10711.18758	2 13680.699	10.1361083	1179 9.8638917	7309.56858	
10.0295843	10704.94357	3 13684.416	10.1362263	1180 9.8637737	7307.58357	
10.0293311	10698.70256	4 13688.136	10.1363443	1180 9.8636557	7305.59756	
10.0290779	10692.46655	5 13691.859	10.1364624	1181 9.8635376	7303.61055	
10.0288246	10686.23243	6 13695.586	10.1365806	1182 9.8634194	7301.62354	
10.0285714	10680.00453	7 13699.315	10.1366989	1183 9.8633011	7299.63553	
10.0283182	10673.77952	8 13703.048	10.1368172	1183 9.8631828	7297.64552	
10.0280650	10667.55851	9 13706.784	10.1369356	1184 9.8630644	7295.65751	
10.0278118	10661.34150	10 13710.523	10.1370540	1184 9.8629460	7293.66750	
10.0275587	10655.12849	11 13714.266	10.1371726	1186 9.8628274	7291.67749	
10.0273055	10648.91848	12 13718.011	10.1372912	1186 9.8627088	7289.68648	
10.0270523	10642.71347	13 13721.760	10.1374098	1186 9.8625902	7287.69447	
10.0267992	10636.51146	14 13725.512	10.1375286	1188 9.8624714	7285.70246	
10.0265461	10630.31345	15 13729.268	10.1376474	1188 9.8623526	7283.70945	
10.0262929	10624.11944	16 13733.026	10.1377662	1188 9.8622338	7281.71644	
10.0260398	10617.92943	17 13736.788	10.1378852	1190 9.8621148	7279.72243	
10.0257867	10611.74242	18 13740.553	10.1380042	1190 9.8619958	7277.72742	
10.0255336	10605.56041	19 13744.321	10.1381233	1191 9.8618767	7275.73241	
10.0252805	10599.38140	20 13748.092	10.1382424	1191 9.8617576	7273.73640	
10.0250274	10593.20639	21 1375.867	10.1383617	1193 9.8616383	7271.74039	
10.0247743	10587.03438	22 1375.645	10.1384810	1193 9.8615192	7269.74338	
10.0245213	10580.86737	23 1375.426	10.1386003	1193 9.8613997	7267.74537	
10.0242682	10574.70136	24 1376.210	10.1387197	1194 9.8612803	7265.74736	
10.0240151	10568.54435	25 1376.998	10.1388392	1195 9.8611608	7263.74835	
10.0237621	10562.38834	26 1377.789	10.1389588	1196 9.8610412	7261.74834	
10.0235091	10556.23533	27 1377.583	10.1390785	1197 9.8609215	7259.74833	
10.0232560	10550.08732	28 1377.380	10.1391982	1197 9.8608018	7257.74732	
10.0230030	10543.94231	29 1377.181	10.1393179	1197 9.8606821	7255.74631	
10.0227500	10537.80130	30 1377.985	10.1394378	1199 9.8605622	7253.74430	
10.0224970	10531.66429	31 1378.792	10.1395577	1199 9.8604423	7251.74129	
10.0222440	10525.53128	32 1379.602	10.1396777	1200 9.8603223	7249.73828	
10.0219910	10519.40127	33 1379.416	10.1397978	1201 9.8602022	7247.73427	
10.0217380	10513.27526	34 1380.233	10.1399179	1201 9.8600821	7245.72926	
10.0214851	10507.15325	35 1380.053	10.1400381	1202 9.8599619	7243.72425	
10.0212321	10501.03424	36 1380.877	10.1401584	1203 9.8598416	7241.71824	
10.0209791	10494.92023	37 1381.704	10.1402787	1203 9.8597213	7239.71223	
10.0207262	10488.80922	38 1381.534	10.1403991	1204 9.8596009	7237.70522	
10.0204732	10482.70221	39 1382.367	10.1405196	1205 9.8594804	7235.69821	
10.0202203	10476.59820	40 1383.204	10.1406401	1205 9.8593599	7233.69020	
10.0199674	10470.49819	41 1383.044	10.1407607	1205 9.8592393	7231.68119	
10.0197144	10464.40218	42 1383.887	10.1408814	1207 9.8591186	7229.67118	
10.0194615	10458.31017	43 1383.734	10.1410022	1208 9.8589978	7227.66117	
10.0192086	10452.22116	44 1383.584	10.1411230	1208 9.8588770	7225.65116	
10.0189557	10446.13615	45 1383.437	10.1412439	1209 9.8587561	7223.64015	
10.0187028	10440.05514	46 1383.294	10.1413649	1210 9.8586351	7221.62814	
10.0184499	10433.97713	47 1383.154	10.1414859	1210 9.8585141	7219.61513	
10.0181970	10427.90412	48 1383.017	10.1416071	1212 9.8583929	7217.60212	
10.0179441	10421.83311	49 1383.883	10.1417282	1211 9.8582718	7215.58811	
10.0176913	10415.76710	50 1383.753	10.1418495	1213 9.8581505	7213.57410	
10.0174384	10409.7049	51 1383.626	10.1419708	1213 9.8580292	7211.5599	
10.0171855	10403.6458	52 1383.503	10.1420922	1214 9.8579078	7209.5448	
10.0169327	10397.5897	53 1383.383	10.1422137	1215 9.8577863	7207.5287	
10.0166798	10391.5376	54 1383.266	10.1423352	1215 9.8576648	7205.5116	
10.0164270	10385.4895	55 1383.153	10.1424568	1216 9.8575432	7203.4935	
10.0161741	10379.4414	56 1383.042	10.1425785	1217 9.8574215	7201.4764	
10.0159213	10373.4043	57 1382.936	10.1427002	1217 9.8572998	7199.4573	
10.0156685	10367.3672	58 1382.832	10.1428221	1219 9.8571779	7197.4382	
10.0154156	10361.3331	59 1382.732	10.1429439	1218 9.8570561	7195.4181	
10.0151628	10355.3030	60 1390.1636	10.1430659	1220 9.8569341	7193.3980	
L. Tan.	N. Tan.			Diff	L. Sin.	N. Sin.

44	N. Sin.	L. Sin.	Diff.			44	N. Tan.	L. Tan.	Diff.
0	6946.584	9.8417713	1308	10.1582287	14395.565	60	6965.888	9.848372	2528
1	6948.676	9.8419021	1307	10.1580979	14391.231	59	7662.511	9.9850900	2528
2	6950.767	9.8420328	1306	10.1579672	14386.900	58	7668.137	9.9853428	2528
3	6952.858	9.8421634	1305	10.1578366	14382.574	57	7673.767	9.9855956	2528
4	6954.949	9.8422939	1305	10.1577061	14378.251	56	7679.400	9.9858484	2528
5	6957.039	9.8424244	1304	10.1575756	14373.932	55	7685.035	9.9861012	2528
6	6959.128	9.8425548	1303	10.1574452	14369.616	54	7690.674	9.9863540	2528
7	6961.217	9.8426851	1303	10.1573149	14365.305	53	7696.316	9.9866068	2528
8	6963.305	9.8428154	1302	10.1571846	14360.997	52	7701.962	9.9868596	2528
9	6965.392	9.8429456	1301	10.1570544	14356.693	51	7707.610	9.9871123	2528
10	6967.479	9.8430757	1300	10.1569243	14352.393	50	7713.262	9.9873651	2528
11	6969.565	9.8432057	1299	10.1567943	14348.097	49	7718.917	9.9876179	2527
12	6971.651	9.8433356	1299	10.1566644	14343.805	48	7724.575	9.9878706	2528
13	6973.736	9.8434655	1298	10.1565345	14339.516	47	7730.236	9.9881234	2527
14	6975.821	9.8435953	1297	10.1564047	14335.231	46	7735.901	9.9883761	2528
15	6977.905	9.8437250	1297	10.1562750	14330.950	45	7741.569	9.9886289	2527
16	6979.988	9.8438547	1295	10.1561453	14326.672	44	7747.240	9.9888816	2528
17	6982.071	9.8439842	1295	10.1560158	14322.399	43	7752.914	9.9891344	2527
18	6984.153	9.8441137	1295	10.1558863	14318.129	42	7758.591	9.9893871	2528
19	6986.234	9.8442432	1293	10.1557568	14313.865	41	7764.272	9.9896399	2527
20	6988.315	9.8443725	1293	10.1556275	14309.600	40	7769.956	9.9898926	2527
21	6990.396	9.8445018	1292	10.1554982	14305.342	39	7775.643	9.9901453	2528
22	6992.476	9.8446310	1291	10.1553690	14301.087	38	7781.333	9.9903980	2527
23	6994.555	9.8447601	1290	10.1552399	14296.836	37	7787.027	9.9906508	2527
24	6996.633	9.8448891	1290	10.1551107	14292.588	36	7792.724	9.9909035	2527
25	6998.711	9.8450181	1289	10.1549815	14288.344	35	7798.424	9.9911562	2527
26	7000.789	9.8451470	1288	10.1548530	14284.104	34	7804.127	9.9914089	2527
27	7002.866	9.8452758	1287	10.1547242	14279.868	33	7809.833	9.9916616	2527
28	7004.942	9.8454045	1287	10.1545955	14275.636	32	7815.543	9.9919143	2527
29	7007.018	9.8455332	1286	10.1544668	14271.407	31	7821.256	9.9921670	2527
30	7009.093	9.8456618	1285	10.1543382	14267.182	30	7826.973	9.9924197	2527
31	7011.167	9.8457903	1285	10.1542097	14262.961	29	7832.692	9.9926724	2527
32	7013.241	9.8459188	1283	10.1540812	14258.743	28	7838.415	9.9929251	2527
33	7015.314	9.8460471	1283	10.1539529	14254.529	27	7844.141	9.9931778	2527
34	7017.387	9.8461754	1282	10.1538246	14250.319	26	7849.871	9.9934305	2527
35	7019.458	9.8463036	1282	10.1536964	14246.112	25	7855.603	9.9936832	2527
36	7021.530	9.8464318	1281	10.1535682	14241.909	24	7861.339	9.9939359	2527
37	7023.601	9.8465599	1280	10.1534401	14237.710	23	7867.079	9.9941886	2527
38	7025.671	9.8466879	1279	10.1533121	14233.514	22	7872.821	9.9944413	2527
39	7027.741	9.8468158	1278	10.1531842	14229.323	21	7878.567	9.9946940	2526
40	7029.810	9.8469436	1278	10.1530564	14225.134	20	7884.316	9.9949466	2527
41	7031.879	9.8470714	1277	10.1529286	14220.950	19	7890.069	9.9951993	2527
42	7033.947	9.8471991	1276	10.1528009	14216.769	18	7895.825	9.9954520	2527
43	7036.014	9.8473267	1276	10.1526733	14212.592	17	7901.584	9.9957047	2526
44	7038.081	9.8474543	1274	10.1525457	14208.418	16	7907.346	9.9959573	2527
45	7040.147	9.8475817	1274	10.1524183	14204.248	15	7913.112	9.9962100	2527
46	7042.213	9.8477091	1274	10.1522909	14200.082	14	7918.881	9.9964626	2527
47	7044.278	9.8478365	1272	10.1521635	14195.919	13	7924.654	9.9967154	2526
48	7046.342	9.8479637	1272	10.1520363	14191.761	12	7930.429	9.9969680	2527
49	7048.406	9.8480909	1271	10.1519091	14187.605	11	7936.208	9.9972207	2527
50	7050.469	9.8482180	1270	10.1517820	14183.454	10	7941.991	9.9974734	2526
51	7052.532	9.8483450	1270	10.1516550	14179.305	9	7947.777	9.9977260	2527
52	7054.594	9.8484720	1269	10.1515280	14175.161	8	7953.568	9.9979787	2527
53	7056.655	9.8485989	1268	10.1514011	14171.022	7	7959.358	9.9982314	2526
54	7058.716	9.8487257	1267	10.1512743	14166.883	6	7965.154	9.9984840	2527
55	7060.776	9.8488524	1267	10.1511476	14162.749	5	7970.953	9.9987367	2526
56	7062.835	9.8489791	1266	10.1510209	14158.619	4	7976.756	9.9989893	2527
57	7064.894	9.8491057	1265	10.1508943	14154.493	3	7982.562	9.9992420	2527
58	7066.953	9.8492322	1264	10.1507678	14150.370	2	7988.371	9.9994947	2526
59	7069.011	9.8493586	1264	10.1506414	14146.251	1	7994.184	9.9997473	2527
60	7071.068	9.8494850		10.1505150	14142.136		10.0000000		
			Diff.	L. Sec.	N. Sec.	45			Diff.

			4.	N. Sec.	L. Sec.	Diff.			
10.0151628	10355.303	60	0	13901.636	10.1430659	2.8569341	7193.398	60	
10.0149100	10344.277	59	1	13905.543	10.1431879	2.8568121	7191.377	59	
10.0146572	10343.454	58	2	13909.453	10.1433100	2.8566900	7189.355	58	
10.0144044	10337.235	57	3	13913.366	10.1434321	2.8565678	7187.333	57	
10.0141516	10331.220	56	4	13917.283	10.1435545	2.8564455	7185.310	56	
10.0138988	10325.208	55	5	13921.203	10.1436768	2.8563232	7183.287	55	
10.0136460	10319.199	54	6	13925.127	10.1437991	2.8562008	7181.263	54	
10.0133932	10313.195	53	7	13929.054	10.1439216	2.8560784	7179.238	53	
10.0131404	10307.194	52	8	13932.985	10.1440442	2.8559558	7177.213	52	
10.0128877	10301.196	51	9	13936.918	10.1441668	2.8558332	7175.187	51	
10.0126349	10295.203	50	10	13940.856	10.1442894	2.8557106	7173.161	50	
10.0123821	10289.212	49	11	13944.796	10.1444122	2.8555878	7171.134	49	
10.0121294	10283.226	48	12	13948.740	10.1445350	2.8554650	7169.106	48	
10.0118766	10277.243	47	13	13952.688	10.1446577	2.8553421	7167.078	47	
10.0116239	10271.263	46	14	13956.639	10.1447808	2.8552192	7165.049	46	
10.0113711	10265.287	45	15	13960.593	10.1449039	2.8550961	7163.019	45	
10.0111184	10259.315	44	16	13964.551	10.1450270	2.8549730	7160.989	44	
10.0108656	10253.346	43	17	13968.512	10.1451501	2.8548499	7158.958	43	
10.0106129	10247.381	42	18	13972.477	10.1452734	2.8547266	7156.927	42	
10.0103601	10241.419	41	19	13976.445	10.1453967	2.8546033	7154.895	41	
10.0101074	10235.461	40	20	13980.416	10.1455201	2.8544799	7152.863	40	
10.0098547	10229.505	39	21	13984.391	10.1456436	2.8543564	7150.830	39	
10.0096019	10223.553	38	22	13988.369	10.1457671	2.8542329	7148.796	38	
10.0093492	10217.608	37	23	13992.351	10.1458907	2.8541093	7146.762	37	
10.0090965	10211.664	36	24	13996.336	10.1460144	2.8539856	7144.727	36	
10.0088438	10205.723	35	25	14000.325	10.1461381	2.8538619	7142.691	35	
10.0085911	10199.786	34	26	14004.317	10.1462619	2.8537381	7140.655	34	
10.0083384	10193.853	33	27	14008.313	10.1463858	2.8536142	7138.618	33	
10.0080857	10187.923	32	28	14012.312	10.1465098	2.8534902	7136.581	32	
10.0078330	10181.997	31	29	14016.315	10.1466338	2.8533662	7134.543	31	
10.0075803	10176.074	30	30	14020.321	10.1467579	2.8532421	7132.505	30	
10.0073276	10170.155	29	31	14024.330	10.1468821	2.8531179	7130.466	29	
10.0070749	10164.239	28	32	14028.343	10.1470064	2.8529936	7128.426	28	
10.0068222	10158.326	27	33	14032.360	10.1471307	2.8528693	7126.385	27	
10.0065695	10152.417	26	34	14036.380	10.1472551	2.8527449	7124.344	26	
10.0063168	10146.512	25	35	14040.403	10.1473796	2.8526204	7122.302	25	
10.0060641	10140.610	24	36	14044.430	10.1475041	2.8524959	7120.260	24	
10.0058114	10134.712	23	37	14048.460	10.1476287	2.8523713	7118.217	23	
10.0055587	10128.817	22	38	14052.494	10.1477534	2.8522466	7116.174	22	
10.0053060	10122.925	21	39	14056.532	10.1478782	2.8521218	7114.130	21	
10.0050534	10117.037	20	40	14060.573	10.1480030	2.8519970	7112.086	20	
10.0048007	10111.153	19	41	14064.617	10.1481279	2.8518721	7110.041	19	
10.0045480	10105.272	18	42	14068.665	10.1482529	2.8517471	7107.995	18	
10.0042953	10099.394	17	43	14072.717	10.1483780	2.8516220	7105.948	17	
10.0040427	10093.520	16	44	14076.772	10.1485031	2.8514969	7103.901	16	
10.0037900	10087.649	15	45	14080.831	10.1486283	2.8513717	7101.854	15	
10.0035373	10081.782	14	46	14084.893	10.1487535	2.8512465	7099.806	14	
10.0032846	10075.918	13	47	14088.958	10.1488789	2.8511211	7097.757	13	
10.0030320	10070.058	12	48	14093.028	10.1490043	2.8509957	7095.707	12	
10.0027793	10064.201	11	49	14097.100	10.1491298	2.8508702	7093.657	11	
10.0025266	10058.347	10	50	14101.177	10.1492554	2.8507446	7091.607	10	
10.0022740	10052.497	9	51	14105.256	10.1493810	2.8506190	7089.556	9	
10.0020213	10046.641	8	52	14109.340	10.1495067	2.8504933	7087.504	8	
10.0017686	10040.807	7	53	14113.427	10.1496325	2.8503675	7085.451	7	
10.0015160	10034.976	6	54	14117.517	10.1497583	2.8502417	7083.398	6	
10.0012633	10029.121	5	55	14121.611	10.1498843	2.8501157	7081.345	5	
10.0010107	10023.269	4	56	14125.709	10.1500103	2.8500000	7079.291	4	
10.0007580	10017.429	3	57	14129.810	10.1501363	2.8498833	7077.236	3	
10.0005053	10011.642	2	58	14133.915	10.1502625	2.8497665	7075.180	2	
10.0002527	10005.819	1	59	14138.024	10.1503887	2.8496496	7073.124	1	
10.0000000	10000.000	0	60	14142.136	10.1505150	2.8495327	7071.068	0	
L. Tang.	N. Tan.					iff	L. Sin.		

The End of the Table of Sines, Tangents, and Secants.

Deg. 0, 1, 2, 3 A Table of Natural Verfed

M	N. 0	N. 1	N. 2	N. 3	L. 0	L. 1	L. 2	L. 3	M
0	0000 000	0001.523	0006.092	0013.705	0.0000000	6.1827137	6.7847406	7.1368680	0
1	0000.001	0001.574	0006.194	0013.857	2.6264222	6.1970707	6.7919482	7.1416791	1
2	.002	1.626	6.296	14.011	3.2284822	6.2111938	6.7990963	7.1464636	2
3	.004	1.679	6.400	14.165	3.5806647	6.2250913	6.8061860	7.1512219	3
4	.007	1.733	6.505	14.320	3.8305422	6.2387696	6.8132185	7.1559542	4
5	.011	1.788	6.610	14.476	4.0243620	6.2522361	6.8201944	7.1606609	5
6	.016	1.843	6.716	14.633	4.1827246	6.2654968	6.8271147	7.1653422	6
7	0000.022	0001.899	0006.823	0014.791	4.3166182	6.2785581	6.8339812	7.1699984	7
8	.028	1.956	6.931	14.950	4.4326027	6.2914259	6.8407920	7.1746297	8
9	.035	2.014	7.040	15.109	4.5349070	6.3041058	6.8475506	7.1792365	9
10	.043	2.073	7.150	15.269	4.6264219	6.3166033	6.8542572	7.1838189	10
11	.052	2.133	7.260	15.430	4.7092072	6.3289230	6.8609123	7.1883773	11
12	.062	2.194	7.371	15.592	4.7847843	6.3410714	6.8675167	7.1929118	12
13	0000.073	0002.255	0007.483	0015.755	4.8543084	6.3530516	6.8740712	7.1974228	13
14	.084	2.317	7.596	15.919	4.9186777	6.3648689	6.8805768	7.2019104	14
15	.096	2.380	7.710	16.083	4.9786040	6.3765275	6.8870338	7.2063755	15
16	.109	2.444	7.825	16.248	5.0346514	6.3880317	6.8934434	7.2108167	16
17	.123	2.509	7.940	16.414	5.0873192	6.3993555	6.8998058	7.2152358	17
18	.138	2.575	8.056	16.581	5.1369663	6.4105928	6.9061221	7.2196326	18
19	0000.154	0002.641	0008.173	0016.749	5.1839282	6.4216574	6.9123926	7.2240071	19
20	.170	2.708	8.291	16.918	5.2284810	6.4325826	6.9186183	7.2283597	20
21	.187	2.776	8.410	17.088	5.2708594	6.4433603	6.9248004	7.2326606	21
22	.205	2.845	8.530	17.258	5.3112661	6.4540294	6.9309372	7.2370000	22
23	.224	2.915	8.651	17.429	5.3498762	6.4645573	6.9370316	7.2412881	23
24	.244	2.986	8.772	17.601	5.3858430	6.4749592	6.9430837	7.2455551	24
25	0000.265	0003.057	0008.894	0017.774	5.4223002	6.4852380	6.9490938	7.2498013	25
26	.287	3.129	9.017	17.948	5.4563669	6.4953365	6.9550627	7.2540267	26
27	.307	3.202	9.141	18.123	5.4891474	6.5054376	6.9609886	7.2582317	27
28	.332	3.276	9.266	18.299	5.5207359	6.5153635	6.9668786	7.2624164	28
29	.356	3.351	9.392	18.475	5.5512156	6.5251780	6.9727272	7.2665810	29
30	.381	3.427	9.518	18.652	5.5806620	6.5348825	6.9785359	7.2707258	30
31	0000.407	0003.504	0009.645	0018.830	5.6091426	6.5444797	6.9843062	7.2748508	31
32	.434	3.581	9.773	19.009	5.6367191	6.5539720	6.9900387	7.2789563	32
33	.461	3.659	9.902	19.189	5.6634468	6.5633517	6.9957334	7.2830425	33
34	.489	3.738	10.032	19.369	5.6893765	6.5726509	7.0013911	7.2871095	34
35	.518	3.818	10.163	19.550	5.7145546	6.5818411	7.0069920	7.2911576	35
36	.548	3.899	10.294	19.732	5.7350233	6.5909365	7.0125969	7.2951869	36
37	0000.579	0003.981	0010.426	0019.925	5.7628214	6.5999368	7.0182460	7.2991975	37
38	.611	4.063	10.559	20.099	5.7859850	6.6088450	7.0236600	7.3031897	38
39	.644	4.146	10.693	20.284	5.8085468	6.6176624	7.0291390	7.3071636	39
40	.677	4.230	10.828	20.470	5.8305373	6.6263916	7.0345838	7.3111194	40
41	.711	4.315	10.964	20.657	5.8519848	6.6350337	7.0399946	7.3150572	41
42	.746	4.401	11.101	20.844	5.8729154	6.6435907	7.0453719	7.3189773	42
43	0000.782	0004.488	0011.239	0021.032	5.8933534	6.6520642	7.0507160	7.3228797	43
44	.819	4.576	11.377	21.221	5.9133217	6.6604558	7.0560276	7.3267646	44
45	.857	4.664	11.516	21.411	5.9328412	6.6687671	7.0613068	7.3306322	45
46	.896	4.753	11.656	21.602	5.9519314	6.6769996	7.0665540	7.3344827	46
47	.935	4.843	11.797	21.793	5.9706112	6.6851548	7.0717698	7.3383161	47
48	.975	4.934	11.939	21.985	5.9888977	6.6932340	7.0769544	7.3421327	48
49	0001.016	0005.026	0012.082	0022.178	6.0068070	6.7012386	7.0821082	7.3459326	49
50	1.058	5.119	12.225	22.372	6.0243546	6.7091706	7.0872316	7.3497159	50
51	1.101	5.213	12.369	22.567	6.0415546	6.7170304	7.0923238	7.3534828	51
52	1.145	5.307	12.514	22.763	6.0584206	6.7248199	7.0973883	7.3572334	52
53	1.189	5.402	12.660	22.960	6.0749654	6.7325400	7.1024228	7.3609678	53
54	1.234	5.498	12.807	23.157	6.0912008	6.7401921	7.1074280	7.3646863	54
55	0001.280	0005.595	0012.955	0023.355	6.1071384	6.7477774	7.1124044	7.3683888	55
56	1.327	5.693	13.103	23.554	6.1227887	6.7552970	7.1173527	7.3720757	56
57	1.375	5.792	13.252	23.754	6.1381620	6.7627520	7.1222728	7.3757469	57
58	1.424	5.891	13.402	23.955	6.1532679	6.7701436	7.1271655	7.3794027	58
59	1.473	5.991	13.553	24.157	6.1681156	6.7774728	7.1320302	7.3830431	59
60	1.523	6.092	13.705	24.360	6.1827137	6.7847406	7.1368680	7.3866683	60

Sines, and their Logarithms

Deg. 89, 88, 87, 86

M	L. 89	L. 88	L. 87	L. 86	N. 89	N. 88	N. 87	N. 86	M
60	10000000	9.9923536	9.9845725	9.9766544	10000000	9.9825476	9.9651005	9.9476.640	60
59	9.9998736	9.9922250	9.9844417	9.9765212	9.997.031	9.982.567	9.9648.058	9.9473.735	59
58	9.9997473	9.9920964	9.9843108	9.9763881	9.994.182	9.9816.659	9.9645.191	9.9470.830	58
57	9.9996208	9.9919677	9.9841799	9.9762548	9.991.273	9.9816.750	9.9642.284	9.9467.925	57
56	9.9994944	9.9918391	9.9840490	9.9761216	9.988.364	9.9813.842	9.9639.337	9.9465.020	56
55	9.9993679	9.9917103	9.9839179	9.9759883	9.985.456	9.9810.934	9.9636.474	9.9462.116	55
54	9.9992414	9.9915816	9.9837869	9.9758550	9.982.547	9.9808.025	9.9633.563	9.9459.211	54
53	9.9991148	9.9914528	9.9836559	9.9757216	9.979.638	9.9805.117	9.9630.651	9.9456.306	53
52	9.9989882	9.9913240	9.9835248	9.9755882	9.976.729	9.9802.208	9.9627.740	9.9453.402	52
51	9.9988615	9.9911951	9.9833936	9.9754547	9.973.820	9.9799.300	9.9624.842	9.9450.497	51
50	9.9987348	9.9910662	9.9832624	9.9753212	9.970.912	9.9796.392	9.9621.936	9.9447.593	50
49	9.9986081	9.9909372	9.9831312	9.9751877	9.968.003	9.9793.483	9.9619.029	9.9444.688	49
48	9.9984814	9.9908082	9.9830000	9.9750541	9.965.094	9.9790.575	9.9616.122	9.9441.784	48
47	9.9983546	9.9906792	9.9828686	9.9749205	9.962.185	9.9787.667	9.9613.215	9.9438.880	47
46	9.9982278	9.9905501	9.9827373	9.9747868	9.959.276	9.9784.759	9.9610.308	9.9435.976	46
45	9.9981009	9.9904210	9.9826059	9.9746531	9.956.368	9.9781.851	9.9607.402	9.9433.072	45
44	9.9979740	9.9902919	9.9824745	9.9745194	9.953.459	9.9778.943	9.9604.495	9.9430.168	44
43	9.9978470	9.9901627	9.9823431	9.9743856	9.950.550	9.9776.035	9.9601.588	9.9427.264	43
42	9.9977201	9.9900335	9.9822116	9.9742519	9.947.641	9.9773.127	9.9598.682	9.9424.360	42
41	9.9975930	9.9899043	9.9820801	9.9741180	9.944.732	9.9770.219	9.9595.775	9.9421.456	41
40	9.9974660	9.9897750	9.9819485	9.9739841	9.941.823	9.9767.311	9.9592.866	9.9418.552	40
39	9.9973389	9.9896456	9.9818169	9.9738502	9.938.914	9.9764.403	9.9589.962	9.9415.648	39
38	9.9972118	9.9895163	9.9816853	9.9737162	9.936.005	9.9761.495	9.9587.056	9.9412.744	38
37	9.9970846	9.9893869	9.9815536	9.9735822	9.933.096	9.9758.587	9.9584.149	9.9409.840	37
36	9.9969574	9.9892575	9.9814219	9.9734482	9.930.187	9.9755.679	9.9581.243	9.9406.936	36
35	9.9968302	9.9891280	9.9812901	9.9733141	9.927.279	9.9752.771	9.9578.337	9.9404.033	35
34	9.9967029	9.9889985	9.9811583	9.9731800	9.924.370	9.9749.863	9.9575.430	9.9401.129	34
33	9.9965756	9.9888689	9.9810265	9.9730458	9.921.461	9.9746.955	9.9572.524	9.9398.225	33
32	9.9964483	9.9887393	9.9808946	9.9729117	9.918.552	9.9744.047	9.9569.618	9.9395.322	32
31	9.9963209	9.9886097	9.9807627	9.9727774	9.915.643	9.9741.139	9.9566.712	9.9392.418	31
30	9.9961935	9.9884801	9.9806308	9.9726431	9.912.735	9.9738.231	9.9563.806	9.9389.515	30
29	9.9960660	9.9883503	9.9804988	9.9725088	9.909.826	9.9735.323	9.9560.900	9.9386.611	29
28	9.9959385	9.9882206	9.9803668	9.9723745	9.906.917	9.9732.415	9.9557.994	9.9383.708	28
27	9.9958110	9.9880908	9.9802347	9.9722401	9.904.008	9.9729.507	9.9555.088	9.9380.804	27
26	9.9956834	9.9879610	9.9801026	9.9721056	9.901.099	9.9726.599	9.9552.182	9.9377.901	26
25	9.9955558	9.9878311	9.9799704	9.9719712	9.898.191	9.9723.692	9.9549.276	9.9375.000	25
24	9.9954282	9.9877013	9.9798383	9.9718367	9.895.282	9.9720.784	9.9546.370	9.9372.095	24
23	9.9953005	9.9875714	9.9797060	9.9717021	9.892.373	9.9717.876	9.9543.464	9.9369.192	23
22	9.9951728	9.9874414	9.9795738	9.9715675	9.889.464	9.9714.968	9.9540.558	9.9366.289	22
21	9.9950450	9.9873114	9.9794415	9.9714329	9.886.555	9.9712.060	9.9537.652	9.9363.386	21
20	9.9949172	9.9871813	9.9793092	9.9712982	9.883.647	9.9709.153	9.9534.747	9.9360.483	20
19	9.9947894	9.9870512	9.9791768	9.9711635	9.880.738	9.9706.245	9.9531.841	9.9357.580	19
18	9.9946615	9.9869211	9.9790444	9.9710288	9.877.829	9.9703.337	9.9528.935	9.9354.677	18
17	9.9945336	9.9867910	9.9789119	9.9708940	9.874.921	9.9700.430	9.9526.030	9.9351.774	17
16	9.9944057	9.9866608	9.9787795	9.9707592	9.872.012	9.9697.522	9.9523.124	9.9348.871	16
15	9.9942777	9.9865305	9.9786469	9.9706243	9.869.104	9.9694.615	9.9520.219	9.9345.969	15
14	9.9941497	9.9864002	9.9785144	9.9704894	9.866.195	9.9691.707	9.9517.313	9.9343.066	14
13	9.9940216	9.9862700	9.9783817	9.9703545	9.863.286	9.9688.800	9.9514.408	9.9340.163	13
12	9.9938936	9.9861395	9.9782491	9.9702195	9.860.378	9.9685.892	9.9511.502	9.9337.261	12
11	9.9937654	9.9860092	9.9781164	9.9700845	9.857.469	9.9682.985	9.9508.595	9.9334.358	11
10	9.9936373	9.9858788	9.9779837	9.9699494	9.854.561	9.9680.079	9.9505.690	9.9331.456	10
9	9.9935091	9.9857484	9.9778509	9.9698143	9.851.652	9.9677.170	9.9502.786	9.9328.553	9
8	9.9933808	9.9856179	9.9777182	9.9696792	9.848.743	9.9674.263	9.9499.881	9.9325.651	8
7	9.9932525	9.9854875	9.9775853	9.9695440	9.845.835	9.9671.355	9.9496.976	9.9322.747	7
6	9.9931243	9.9853568	9.9774525	9.9694088	9.842.926	9.9668.448	9.9494.071	9.9319.847	6
5	9.9929959	9.9852261	9.9773195	9.9692735	9.840.018	9.9665.541	9.9491.166	9.9316.945	5
4	9.9928675	9.9850955	9.9771866	9.9691382	9.837.109	9.9662.633	9.9488.260	9.9314.043	4
3	9.9927391	9.9849648	9.9770536	9.9690029	9.834.201	9.9659.726	9.9485.355	9.9311.141	3
2	9.9926106	9.9848341	9.9769205	9.9688675	9.831.292	9.9656.819	9.9482.450	9.9308.239	2
1	9.9924821	9.9847033	9.9767875	9.9687321	9.828.384	9.9653.912	9.9479.545	9.9305.337	1
0	9.9923535	9.9845725	9.9766544	9.9685967	9.825.476	9.9651.005	9.9476.640	9.9302.435	0

Dec. 4, 5, 6, 7.

A Table of Natural Verfed

N. 4	N. 5	N. 6	N. 7	L. 4	L. 5	L. 6	L. 7	M
0024.360	0038.053	0047.811	0074.535	7.386583	7.4803891	7.7385303	7.8743806	0
1 0024.563	0038.207	0055.086	0074.894	7.3902785	7.5832777	7.7410375	7.8744436	1
2 24.767	38.562	55.491	75.250	7.3938716	7.5851580	7.7434380	7.8765017	2
3 24.972	38.817	55.697	75.607	7.3974540	7.5890263	7.7458119	7.8785550	3
4 25.178	39.074	56.004	75.964	7.4010196	7.5918354	7.7482197	7.8806033	4
5 25.385	39.331	56.312	76.322	7.4045706	7.5947322	7.7506999	7.8826469	5
6 25.592	39.588	56.621	76.681	7.4081071	7.5975783	7.7532974	7.8846856	6
7 0025.800	0039.848	0056.931	0077.041	7.4116293	7.6004103	7.7553415	7.8867196	7
8 26.005	40.118	57.241	77.681	7.4151372	7.6032331	7.7577031	7.8887487	8
9 26.219	40.369	57.552	77.764	7.4186311	7.6060468	7.7600580	7.8907784	9
10 26.430	40.630	57.864	78.126	7.4221109	7.6088517	7.7624064	7.8927918	10
11 26.643	40.893	58.177	78.484	7.4255757	7.6116463	7.7647485	7.8947981	11
12 26.855	41.156	58.491	78.853	7.4290288	7.6144337	7.7670841	7.8967981	12
13 0027.069	0041.420	0058.806	0079.218	7.4324672	7.6172105	7.7694138	7.8987831	13
14 27.283	41.685	59.121	79.584	7.4358921	7.6199756	7.7717371	7.9007528	14
15 27.498	41.951	59.437	79.951	7.4393034	7.6227395	7.7740541	7.9027112	15
16 27.714	42.217	59.754	80.318	7.4417157	7.6254908	7.7763549	7.9046583	16
17 27.931	42.485	60.072	80.685	7.4440862	7.6282330	7.7786466	7.9065902	17
18 28.149	42.753	60.391	81.055	7.4464578	7.6309668	7.7809682	7.9085119	18
19 0028.367	0043.022	0060.710	0081.425	7.4488163	7.6336920	7.7832607	7.9104261	19
20 28.586	43.292	61.030	81.796	7.4511619	7.6364086	7.7855472	7.9123345	20
21 28.806	43.563	61.351	82.168	7.4535467	7.6391167	7.7878276	7.9142308	21
22 29.027	43.835	61.673	82.541	7.4559281	7.6418164	7.7900902	7.9161168	22
23 29.249	44.107	61.996	82.914	7.4583159	7.6445078	7.7923470	7.9180028	23
24 29.472	44.380	62.320	83.288	7.4606987	7.6471908	7.7945931	7.9200004	24
25 0029.696	0044.655	0062.645	0083.663	7.4630698	7.6498655	7.7968397	7.9220008	25
26 29.921	44.930	62.971	84.039	7.4654383	7.6525332	7.7990805	7.9240042	26
27 30.146	45.205	63.297	84.416	7.4677921	7.6551903	7.8013155	7.9260045	27
28 30.372	45.482	63.624	84.794	7.4701419	7.6578404	7.8035246	7.9280038	28
29 30.599	45.760	63.952	85.172	7.4724874	7.6604825	7.8057240	7.9300027	29
30 30.827	46.038	64.281	85.551	7.4748285	7.6631166	7.8079156	7.9320017	30
31 0031.046	0046.317	0064.611	0085.931	7.4771659	7.6657527	7.8100976	7.9340013	31
32 31.285	46.597	64.942	86.312	7.4795135	7.6683868	7.8122737	7.9360034	32
33 31.519	46.873	65.273	86.694	7.4818519	7.6709711	7.8144433	7.9379908	33
34 31.745	47.160	65.605	87.077	7.5016934	7.6735753	7.8166193	7.9399902	34
35 31.976	47.443	65.938	87.460	7.5040360	7.6761750	7.8187918	7.9419810	35
36 32.211	47.728	66.274	87.844	7.5063707	7.6787550	7.8209586	7.9439651	36
37 0032.445	0048.010	0066.608	0088.219	7.5111468	7.6813342	7.8235205	7.9459510	37
38 32.680	48.290	66.943	88.615	7.5144751	7.6839087	7.8260732	7.9479307	38
39 32.915	48.581	67.275	89.002	7.5177922	7.6864869	7.8286204	7.9499022	39
40 33.151	48.868	67.616	89.391	7.5210987	7.6890620	7.8311652	7.9518658	40
41 33.388	49.156	67.954	89.779	7.5243907	7.6916349	7.8337085	7.9538217	41
42 33.626	49.444	68.293	90.165	7.5276697	7.6941961	7.8362504	7.9557708	42
43 0033.865	0049.734	0068.633	0090.555	7.5309498	7.6967502	7.8387949	7.9577126	43
44 34.105	50.020	69.074	90.949	7.5342311	7.6993017	7.8413381	7.9596578	44
45 34.345	50.315	69.315	91.341	7.5375062	7.7018505	7.8438805	7.9616063	45
46 34.585	50.607	69.657	91.734	7.5407838	7.7044078	7.8464269	7.9635500	46
47 34.823	50.900	70.000	92.124	7.5440538	7.7069712	7.8489721	7.9654980	47
48 35.071	51.193	70.344	92.521	7.5473193	7.7095295	7.8515173	7.9674431	48
49 0035.315	0051.487	0070.685	0092.516	7.5505821	7.7121001	7.8540656	7.9693894	49
50 35.560	51.781	71.035	93.312	7.5538450	7.7146832	7.8566151	7.9713314	50
51 35.806	52.079	71.383	93.709	7.5571082	7.7172687	7.8591657	7.9732746	51
52 36.052	52.379	71.729	94.107	7.5603725	7.7198521	7.8617161	7.9752181	52
53 36.299	52.673	72.077	94.506	7.5636370	7.7224325	7.8642665	7.9771629	53
54 36.547	52.972	72.426	94.905	7.5669022	7.7250107	7.8668169	7.9791080	54
55 0036.796	0053.271	0072.776	0095.204	7.5701677	7.7275869	7.8693673	7.9810531	55
56 37.044	53.572	73.127	95.604	7.5734333	7.7301611	7.8719177	7.9830004	56
57 37.292	53.873	73.475	96.003	7.5766990	7.7327325	7.8744681	7.9849481	57
58 37.540	54.175	73.821	96.401	7.5799647	7.7353017	7.8770185	7.9868961	58
59 37.788	54.477	74.164	96.800	7.5832304	7.7378689	7.8795689	7.9888441	59
60 38.033	54.781	74.509	97.198	7.5864961	7.7404341	7.8821193	7.9907921	60

Sines, and their Logarithms.

Deg. 85, 84, 83, 82

M	L. 85	L. 84	L. 83	L. 82	N. 85	N. 84	N. 83	N. 82	M
60	9.9685967	9.9603967	9.9520518	9.9435591	9302.435	9128.543	8954.715	8781.307	60
59	9.9684611	9.9602588	9.9519114	9.9434163	9299.533	9125.545	8951.822	8778.420	59
58	9.9683256	9.9601209	9.9517711	9.9432735	9296.631	9122.647	8948.929	8775.533	58
57	9.9681900	9.9599829	9.9516307	9.9431306	9293.730	9119.750	8946.036	8772.646	57
56	9.9680544	9.9598449	9.9514902	9.9429876	9290.828	9116.852	8943.143	8769.759	56
55	9.9679188	9.9597068	9.9513497	9.9428446	9287.927	9113.955	8940.251	8766.872	55
54	9.9677831	9.9595688	9.9512092	9.9427016	9285.025	9111.057	8937.358	8763.985	54
53	9.9676474	9.9594306	9.9510686	9.9425586	9282.124	9108.160	8934.466	8761.099	53
52	9.9675116	9.9592925	9.9509280	9.9424155	9279.223	9105.263	8931.574	8758.212	52
51	9.9673758	9.9591542	9.9507874	9.9422723	9276.322	9102.366	8928.682	8755.326	51
50	9.9672399	9.9590160	9.9506467	9.9421291	9273.421	9099.469	8925.790	8752.440	50
49	9.9671040	9.9588777	9.9505059	9.9419859	9270.520	9096.572	8922.898	8749.554	49
48	9.9669681	9.9587394	9.9503652	9.9418426	9267.619	9093.675	8920.006	8746.668	48
47	9.9668321	9.9586010	9.9502243	9.9416993	9264.718	9090.778	8917.114	8743.782	47
46	9.9666961	9.9584626	9.9500835	9.9415560	9261.817	9087.881	8914.222	8740.896	46
45	9.9665601	9.9583241	9.9499426	9.9414125	9258.916	9084.984	8911.331	8738.010	45
44	9.9664240	9.9581857	9.9498016	9.9412691	9256.015	9082.087	8908.439	8735.124	44
43	9.9662879	9.9580471	9.9496606	9.9411256	9253.114	9079.191	8905.548	8732.239	43
42	9.9661517	9.9579086	9.9495196	9.9409822	9250.213	9076.294	8902.656	8729.353	42
41	9.9660155	9.9577699	9.9493785	9.9408385	9247.312	9073.398	8899.765	8726.468	41
40	9.9658793	9.9576313	9.9492375	9.9406949	9244.412	9070.502	8896.874	8723.583	40
39	9.9657430	9.9574928	9.9490963	9.9405513	9241.511	9067.605	8893.983	8720.698	39
38	9.9656067	9.9573539	9.9489551	9.9404076	9238.611	9064.709	8891.092	8717.813	38
37	9.9654703	9.9572151	9.9488139	9.9402638	9235.710	9061.813	8888.201	8714.928	37
36	9.9653339	9.9570763	9.9486716	9.9401201	9232.810	9058.917	8885.310	8712.043	36
35	9.9651974	9.9569374	9.9485311	9.9399762	9229.910	9056.021	8882.420	8709.159	35
34	9.9650610	9.9567985	9.9483899	9.9398324	9227.009	9053.125	8879.529	8706.274	34
33	9.9649244	9.9566596	9.9482485	9.9396885	9224.109	9050.229	8876.639	8703.390	33
32	9.9647879	9.9565206	9.9481071	9.9395445	9221.209	9047.333	8873.748	8700.505	32
31	9.9646512	9.9563816	9.9479656	9.9394005	9218.309	9044.437	8870.858	8697.622	31
30	9.9645146	9.9562425	9.9478241	9.9392565	9215.409	9041.542	8867.968	8694.738	30
29	9.9643779	9.9561034	9.9476825	9.9391124	9212.509	9038.646	8865.078	8691.854	29
28	9.9642412	9.9559643	9.9475409	9.9389683	9209.609	9035.751	8862.188	8688.970	28
27	9.9641044	9.9558251	9.9473993	9.9388241	9206.709	9032.855	8859.298	8686.086	27
26	9.9639676	9.9556859	9.9472576	9.9386800	9203.809	9029.961	8856.408	8683.202	26
25	9.9638308	9.9555466	9.9471159	9.9385357	9200.910	9027.066	8853.518	8680.319	25
24	9.9636939	9.9554073	9.9469741	9.9383914	9198.010	9024.171	8850.628	8677.436	24
23	9.9635570	9.9552680	9.9468323	9.9382471	9195.111	9021.276	8847.739	8674.553	23
22	9.9634200	9.9551286	9.9466904	9.9381027	9192.211	9018.381	8844.849	8671.670	22
21	9.9632830	9.9549891	9.9465485	9.9379583	9189.312	9015.486	8841.960	8668.787	21
20	9.9631460	9.9548497	9.9464066	9.9378139	9186.413	9012.592	8839.071	8665.904	20
19	9.9630089	9.9547102	9.9462646	9.9376693	9183.514	9009.697	8836.182	8663.021	19
18	9.9628718	9.9545706	9.9461226	9.9375248	9180.615	9006.802	8833.293	8660.138	18
17	9.9627346	9.9544310	9.9459805	9.9373802	9177.716	9003.908	8830.404	8657.256	17
16	9.9625974	9.9542914	9.9458385	9.9372356	9174.817	9001.013	8827.515	8654.373	16
15	9.9624601	9.9541517	9.9456963	9.9370909	9171.918	8998.119	8824.626	8651.491	15
14	9.9623229	9.9540120	9.9455541	9.9369462	9169.019	8995.225	8821.737	8648.608	14
13	9.9621855	9.9538723	9.9454119	9.9368015	9166.120	8992.331	8818.849	8645.726	13
12	9.9620482	9.9537325	9.9452696	9.9366567	9163.222	8989.437	8815.960	8642.844	12
11	9.9619108	9.9535926	9.9451273	9.9365118	9160.323	8986.543	8813.072	8639.962	11
10	9.9617733	9.9534528	9.9449850	9.9363670	9157.424	8983.649	8810.184	8637.080	10
9	9.9616358	9.9533128	9.9448425	9.9362220	9154.526	8980.755	8807.296	8634.198	9
8	9.9614983	9.9531729	9.9447001	9.9360771	9151.628	8977.861	8804.408	8631.317	8
7	9.9613607	9.9530329	9.9445576	9.9359321	9148.729	8974.968	8801.520	8628.436	7
6	9.9612232	9.9528929	9.9444151	9.9357870	9145.831	8972.074	8798.632	8625.554	6
5	9.9610855	9.9527528	9.9442726	9.9356419	9142.933	8969.181	8795.745	8622.673	5
4	9.9609478	9.9526127	9.9441300	9.9354968	9140.035	8966.287	8792.857	8619.792	4
3	9.9608101	9.9524725	9.9439873	9.9353516	9137.137	8963.394	8789.969	8616.911	3
2	9.9606723	9.9523323	9.9438446	9.9352064	9134.239	8960.501	8787.082	8614.030	2
1	9.9605345	9.9521920	9.9437019	9.9350611	9131.341	8957.608	8784.194	8611.149	1
0	9.9603967	9.9520518	9.9435591	9.9349158	9128.443	8954.715	8781.307	8608.269	0

Deg. 8,9,10,11.

A Table of Natural Veried

M	N. 8	N. 9	N. 10	N. 11	L. 8	L. 9	L. 10	L. 11	M
0	0097.319	0123.117	0151.922	0183.728	7.9881990	8.0903166	8.1816220	8.2641757	0
1	0097.724	0123.573	0152.428	0184.284	7.9900038	8.0919203	8.1830648	8.2654867	1
2	98.130	124.029	152.934	184.840	7.9918047	8.0935210	8.1845051	8.2667957	2
3	98.537	124.486	153.441	185.397	7.9936020	8.0951188	8.1859431	8.2681028	3
4	98.935	124.944	153.949	185.955	7.9953955	8.0967136	8.1873786	8.2694078	4
5	99.354	125.403	154.456	186.514	7.9971853	8.0983055	8.1888118	8.2707169	5
6	99.763	125.863	154.968	187.074	7.9989713	8.0998944	8.1902426	8.2720119	6
7	0100.173	0126.323	0155.479	0187.634	8.0007537	8.1014804	8.1916710	8.2733111	7
8	100.581	126.784	155.996	188.195	8.0025325	8.1030635	8.1930971	8.2746082	8
9	100.996	127.246	156.502	188.757	8.0043076	8.1046437	8.1945208	8.2759035	9
10	101.409	127.709	157.015	189.320	8.0060790	8.1062211	8.1959421	8.2771967	10
11	101.823	128.173	157.529	189.884	8.0078468	8.1077955	8.1973611	8.2784918	11
12	102.238	128.638	158.044	190.449	8.0096110	8.1093671	8.1987778	8.2797774	12
13	0102.653	0129.103	0158.560	0191.014	8.0113716	8.1109358	8.2001921	8.2810649	13
14	103.069	129.569	159.076	191.580	8.0131287	8.1125017	8.2016042	8.2823504	14
15	103.486	130.036	159.593	192.147	8.0148822	8.1140647	8.2030139	8.2836341	15
16	103.904	130.504	160.111	192.715	8.0166321	8.1156249	8.2044213	8.2849158	16
17	104.323	130.973	160.630	193.284	8.0183785	8.1171823	8.2058264	8.2861956	17
18	104.743	131.443	161.150	193.853	8.0201213	8.1187369	8.2072293	8.2874735	18
19	0105.163	0131.915	0161.671	0194.423	8.0218607	8.1202887	8.2086298	8.2887495	19
20	105.584	132.384	162.192	194.994	8.0235965	8.1218377	8.2100281	8.2900236	20
21	106.006	132.856	162.714	195.566	8.0253289	8.1233840	8.2114241	8.2912958	21
22	106.429	133.329	163.237	196.139	8.0270578	8.1249274	8.2128179	8.2925661	22
23	106.853	133.803	163.761	196.713	8.0287833	8.1264681	8.2142094	8.2938346	23
24	107.277	134.278	164.286	197.288	8.0305053	8.1280061	8.2155987	8.2951012	24
25	0107.702	0134.754	0164.811	0197.863	8.0322239	8.1295413	8.2169857	8.2963660	25
26	108.128	135.230	165.337	198.439	8.0339391	8.1310738	8.2183705	8.2976289	26
27	108.555	135.707	165.864	199.016	8.0356508	8.1326036	8.2197531	8.2988899	27
28	108.983	136.185	166.392	199.594	8.0373592	8.1341307	8.2211334	8.3001491	28
29	109.412	136.664	166.921	200.174	8.0390643	8.1356551	8.2225116	8.3014064	29
30	109.841	137.144	167.451	200.753	8.0407659	8.1371768	8.2238875	8.3026619	30
31	0110.271	0137.624	0167.981	0201.333	8.0424642	8.1386958	8.2252613	8.3039156	31
32	110.702	138.105	168.512	201.914	8.0441592	8.1402121	8.2266329	8.3051675	32
33	111.134	138.587	169.044	202.496	8.0458509	8.1417258	8.2280023	8.3064175	33
34	111.567	139.070	169.577	203.079	8.0475393	8.1432368	8.2293695	8.3076657	34
35	112.001	139.554	170.111	203.663	8.0492243	8.1447452	8.2307345	8.3089122	35
36	112.436	140.039	170.646	204.247	8.0509061	8.1462510	8.2320974	8.3101568	36
37	0112.872	0140.525	0171.182	0204.832	8.0525847	8.1477541	8.2334581	8.3113996	37
38	113.308	141.011	171.718	205.418	8.0542599	8.1492546	8.2348167	8.3126406	38
39	113.745	141.495	172.255	206.005	8.0559319	8.1507525	8.2361732	8.3138798	39
40	114.183	141.986	172.793	206.593	8.0576007	8.1522478	8.2375275	8.3151172	40
41	114.622	142.475	173.332	207.182	8.0592663	8.1537405	8.2388797	8.3163529	41
42	115.064	142.965	173.872	207.772	8.0609283	8.1552307	8.2402297	8.3175868	42
43	0115.502	0143.456	0174.413	0208.362	8.0625878	8.1567182	8.2415737	8.3188189	43
44	115.943	143.947	174.954	208.953	8.0642438	8.1582032	8.2429235	8.3200493	44
45	116.385	144.439	175.496	209.545	8.0658966	8.1596857	8.2442673	8.3212779	45
46	116.828	144.932	176.039	210.138	8.0675463	8.1611656	8.2456089	8.3225047	46
47	117.272	145.426	176.583	210.732	8.0691928	8.1626430	8.2469485	8.3237298	47
48	117.717	145.921	177.128	211.326	8.0708362	8.1641178	8.2482860	8.3249532	48
49	0118.161	0146.417	0177.673	0211.921	8.0724764	8.1655902	8.2496214	8.3261748	49
50	118.605	146.913	178.219	212.517	8.0741136	8.1670600	8.2509547	8.3273947	50
51	119.053	147.410	178.766	213.114	8.0757476	8.1685273	8.2522860	8.3286128	51
52	119.501	147.908	179.314	213.712	8.0773786	8.1699921	8.2536152	8.3298292	52
53	119.953	148.407	179.863	214.311	8.0790065	8.1714545	8.2549424	8.3310439	53
54	120.405	148.907	180.413	214.910	8.0806313	8.1729144	8.2562675	8.3322569	54
55	0120.853	0149.407	0180.962	0215.510	8.0822531	8.1743717	8.2575906	8.3334682	55
56	121.307	149.908	181.514	216.111	8.0838718	8.1758267	8.2589117	8.3346778	56
57	121.755	150.410	182.066	216.713	8.0854976	8.1772792	8.2602307	8.3358857	57
58	122.205	150.913	182.619	217.316	8.0871002	8.1787292	8.2615477	8.3370918	58
59	122.656	151.417	183.173	217.920	8.0887059	8.1801768	8.2628626	8.3382963	59
60	123.117	151.922	183.728	218.524	8.0903166	8.1816220	8.2641757	8.3394991	60

Sines, and their Logarithms.

Deg. 81, 80, 79, 78

M	L. 81	L. 80	L. 79	L. 78	N. 81	N. 80	N. 79	N. 78	M
60	9.9349158	9.9261188	9.9171650	9.9080510	8608.269	8435.655	8263.518	8091.910	60
59	9.9347705	9.9259709	9.9170144	9.9078977	8605.388	8432.782	8260.653	8089.055	59
58	9.9346251	9.9258229	9.9168638	9.9077445	8602.508	8429.909	8257.789	8086.205	58
57	9.9344756	9.9256749	9.9167131	9.9075911	8599.627	8427.036	8254.925	8083.345	57
56	9.9343326	9.9255268	9.9165624	9.9074377	8596.747	8424.163	8252.061	8080.490	56
55	9.9341886	9.9253787	9.9164116	9.9072842	8593.867	8421.291	8249.197	8077.635	55
54	9.9340431	9.9252306	9.9162609	9.9071307	8590.987	8418.419	8246.333	8074.780	54
53	9.9338975	9.9250823	9.9161100	9.9069771	8588.107	8415.547	8243.469	8071.926	53
52	9.9337526	9.9249341	9.9159591	9.9068236	8585.228	8412.675	8240.606	8069.072	52
51	9.9336061	9.9247858	9.9158082	9.9066699	8582.348	8409.803	8237.742	8066.218	51
50	9.9334604	9.9246375	9.9156572	9.9065163	8579.469	8406.931	8234.879	8063.364	50
49	9.9333146	9.9244891	9.9155062	9.9063625	8576.590	8404.059	8232.016	8060.510	49
48	9.9331688	9.9243407	9.9153551	9.9062087	8573.711	8401.188	8229.153	8057.656	48
47	9.9330229	9.9241922	9.9152040	9.9060549	8570.832	8398.316	8226.290	8054.803	47
46	9.9328771	9.9240437	9.9150528	9.9059011	8567.953	8395.445	8223.427	8051.950	46
45	9.9327311	9.9238956	9.9149016	9.9057471	8565.074	8392.574	8220.565	8049.097	45
44	9.9325851	9.9237466	9.9147504	9.9055932	8562.195	8389.703	8217.702	8046.244	44
43	9.9324391	9.9235979	9.9145991	9.9054392	8559.316	8386.832	8214.840	8043.391	43
42	9.9322930	9.9234493	9.9144478	9.9052851	8556.438	8383.962	8211.978	8040.538	42
41	9.9321469	9.9233005	9.9142964	9.9051310	8553.559	8381.091	8209.116	8037.686	41
40	9.9320007	9.9231518	9.9141450	9.9049769	8550.681	8378.221	8206.254	8034.834	40
39	9.9318545	9.9230030	9.9139935	9.9048227	8547.803	8375.351	8203.392	8031.982	39
38	9.9317083	9.9228541	9.9138420	9.9046685	8544.925	8372.481	8200.531	8029.130	38
37	9.9315620	9.9227052	9.9136904	9.9045142	8542.047	8369.611	8197.669	8026.278	37
36	9.9314156	9.9225563	9.9135388	9.9043599	8539.169	8366.741	8194.808	8023.426	36
35	9.9312692	9.9224073	9.9133871	9.9042055	8536.292	8363.871	8191.946	8020.575	35
34	9.9311228	9.9222583	9.9132355	9.9040511	8533.414	8361.001	8189.086	8017.724	34
33	9.9309764	9.9221092	9.9130837	9.9038966	8530.537	8358.132	8186.226	8014.873	33
32	9.9308300	9.9219601	9.9129319	9.9037421	8527.660	8355.262	8183.366	8012.022	32
31	9.9306833	9.9218109	9.9127801	9.9035876	8524.783	8352.393	8180.505	8009.171	31
30	9.9305367	9.9216617	9.9126282	9.9034330	8521.906	8349.524	8177.645	8006.321	30
29	9.9303901	9.9215124	9.9124763	9.9032783	8519.029	8346.655	8174.785	8003.470	29
28	9.9302434	9.9213632	9.9123244	9.9031236	8516.152	8343.786	8171.925	8000.620	28
27	9.9300967	9.9212138	9.9121723	9.9029689	8513.276	8340.918	8169.065	7997.770	27
26	9.9299499	9.9210644	9.9120203	9.9028141	8510.399	8338.049	8166.205	7994.920	26
25	9.9298031	9.9209150	9.9118682	9.9026593	8507.523	8335.181	8163.346	7992.070	25
24	9.9296563	9.9207656	9.9117161	9.9025044	8504.647	8332.313	8160.487	7989.220	24
23	9.9295094	9.9206160	9.9115638	9.9023495	8501.771	8329.445	8157.628	7986.371	23
22	9.9293624	9.9204665	9.9114116	9.9021945	8498.895	8326.577	8154.769	7983.522	22
21	9.9292154	9.9203169	9.9112593	9.9020395	8496.019	8323.709	8151.910	7980.673	21
20	9.9290684	9.9201672	9.9111070	9.9018845	8493.143	8320.841	8149.051	7977.824	20
19	9.9289213	9.9200175	9.9109546	9.9017293	8490.267	8317.973	8146.192	7974.975	19
18	9.9287743	9.9198678	9.9108022	9.9015742	8487.392	8315.105	8143.334	7972.126	18
17	9.9286271	9.9197180	9.9106498	9.9014190	8484.516	8312.237	8140.476	7969.278	17
16	9.9284799	9.9195682	9.9104973	9.9012638	8481.641	8309.372	8137.618	7966.430	16
15	9.9283326	9.9194183	9.9103447	9.9011085	8478.766	8306.505	8134.760	7963.582	15
14	9.9281854	9.9192684	9.9101921	9.9009531	8475.891	8303.638	8131.902	7960.734	14
13	9.9280380	9.9191184	9.9100395	9.9007977	8473.016	8300.771	8129.044	7957.886	13
12	9.9278907	9.9189685	9.9098868	9.9006423	8470.141	8297.905	8126.187	7955.038	12
11	9.9277432	9.9188184	9.9097341	9.9004868	8467.266	8295.038	8123.330	7952.191	11
10	9.9275958	9.9186683	9.9095813	9.9003313	8464.392	8292.172	8120.473	7949.344	10
9	9.9274483	9.9185182	9.9094285	9.9001758	8461.518	8289.306	8117.616	7946.497	9
8	9.9273008	9.9183680	9.9092756	9.9000202	8458.644	8286.440	8114.759	7943.650	8
7	9.9271531	9.9182178	9.9091227	9.8998645	8455.770	8283.574	8111.902	7940.803	7
6	9.9270055	9.9180675	9.9089697	9.8997088	8452.896	8280.708	8109.046	7937.957	6
5	9.9268578	9.9179172	9.9088167	9.8995530	8450.022	8277.843	8106.190	7935.111	5
4	9.9267101	9.9177669	9.9086637	9.8993973	8447.148	8274.978	8103.334	7932.265	4
3	9.9265624	9.9176164	9.9085106	9.8992414	8444.275	8272.113	8100.478	7929.419	3
2	9.9264146	9.9174660	9.9083575	9.8990855	8441.401	8269.248	8097.622	7926.573	2
1	9.9262667	9.9173155	9.9082043	9.8989296	8438.528	8266.383	8094.766	7923.728	1
0	9.9261188	9.9171650	9.9080510	9.8987736	8435.655	8263.518	8091.910	7920.880	0

Deg 12,13,14,15. A Table of Natural Versed

M	N. 12	N. 13	N. 14	N. 15	L. 12	L. 13	L. 14	L. 15	M
0	0218.524	0256.300	0297.043	0340.742	8.3394991	8.4087475	8.4728189	8.5324253	0
1	0219.129	0256.955	0297.747	0341.495	8.3407002	8.4098556	8.4738472	8.5333844	1
2	0219.735	0257.611	0298.452	0342.249	8.3418997	8.4109622	8.4748742	8.5343423	2
3	0220.342	0258.267	0299.158	0343.004	8.3430975	8.4120675	8.4759001	8.5352992	3
4	0220.950	0258.924	0299.865	0343.760	8.3442936	8.4131713	8.4769246	8.5362551	4
5	0221.558	0259.582	0300.572	0344.516	8.3454880	8.4142736	8.4779480	8.5372098	5
6	0222.167	0260.241	0301.280	0345.273	8.3466808	8.4153746	8.4789701	8.5381635	6
7	0222.777	0260.901	0301.988	0346.031	8.3478719	8.4164741	8.4799910	8.5391161	7
8	0223.388	0261.561	0302.699	0346.790	8.3490614	8.4175723	8.4810107	8.5400677	8
9	0224.000	0262.222	0303.410	0347.550	8.3502492	8.4186690	8.4820291	8.5410182	9
10	0224.613	0262.884	0304.121	0348.311	8.3514354	8.4197644	8.4830464	8.5419676	10
11	0225.227	0263.547	0304.833	0349.073	8.3526200	8.4208583	8.4840635	8.5429160	11
12	0225.841	0264.211	0305.546	0349.835	8.3538039	8.4219508	8.4850773	8.5438633	12
13	0226.456	0264.876	0306.260	0350.598	8.3549842	8.4230420	8.4860910	8.5448096	13
14	0227.072	0265.541	0306.975	0351.362	8.3561639	8.4241318	8.4871034	8.5457548	14
15	0227.689	0266.207	0307.691	0352.127	8.3573419	8.4252280	8.4881146	8.5466983	15
16	0228.307	0266.874	0308.407	0352.892	8.3585184	8.4263202	8.4891247	8.5476422	16
17	0228.925	0267.542	0309.124	0353.658	8.3596932	8.4273928	8.4901336	8.5485843	17
18	0229.544	0268.211	0309.842	0354.425	8.3608664	8.4284770	8.4911412	8.5495253	18
19	0230.164	0268.880	0310.561	0355.193	8.3620380	8.4295600	8.4921477	8.5504654	19
20	0230.785	0269.550	0311.281	0355.962	8.3632081	8.4306414	8.4931530	8.5514044	20
21	0231.407	0270.221	0312.002	0356.732	8.3643765	8.4317216	8.4941571	8.5523423	21
22	0232.030	0270.893	0312.723	0357.502	8.3655434	8.4328004	8.4951601	8.5532793	22
23	0232.653	0271.566	0313.445	0358.273	8.3667086	8.4338778	8.4961619	8.5542152	23
24	0233.277	0272.240	0314.168	0359.045	8.3678723	8.4349539	8.4971625	8.5551500	24
25	0233.902	0272.915	0314.892	0359.818	8.3690344	8.4360286	8.4981619	8.5560839	25
26	0234.528	0273.591	0315.617	0360.592	8.3701950	8.4371020	8.4991602	8.5570167	26
27	0235.155	0274.267	0316.343	0361.367	8.3713540	8.4381740	8.5001573	8.5579485	27
28	0235.783	0274.944	0317.069	0362.142	8.3725114	8.4392447	8.5011532	8.5588793	28
29	0236.411	0275.622	0317.796	0362.918	8.3736672	8.4403141	8.5021480	8.5598091	29
30	0237.040	0276.301	0318.524	0363.695	8.3748215	8.4413821	8.5031416	8.5607379	30
31	0237.670	0276.980	0319.253	0364.473	8.3759743	8.4424488	8.5041341	8.5616656	31
32	0238.301	0277.660	0319.983	0365.252	8.3771255	8.4435142	8.5051254	8.5625924	32
33	0238.933	0278.341	0320.713	0366.031	8.3782751	8.4445743	8.5061136	8.5635181	33
34	0239.565	0279.023	0321.444	0366.811	8.3794232	8.4456410	8.5071046	8.5644429	34
35	0240.198	0279.706	0322.176	0367.592	8.3805698	8.4467024	8.5080925	8.5653666	35
36	0240.832	0280.390	0322.909	0368.374	8.3817149	8.4477625	8.5090795	8.5662894	36
37	0241.467	0281.074	0323.643	0369.157	8.3828584	8.4488213	8.5100648	8.5672111	37
38	0242.103	0281.759	0324.377	0369.941	8.3840004	8.4498788	8.5110493	8.5681318	38
39	0242.740	0282.445	0325.112	0370.725	8.3851409	8.4509350	8.5120326	8.5690515	39
40	0243.377	0283.132	0325.848	0371.510	8.3862799	8.4519898	8.5130148	8.5699704	40
41	0244.015	0283.820	0326.585	0372.296	8.3874174	8.4530434	8.5139959	8.5708881	41
42	0244.654	0284.509	0327.323	0373.083	8.3885533	8.4540957	8.5149758	8.5718049	42
43	0245.294	0285.198	0328.062	0373.871	8.3896878	8.4551467	8.5159546	8.5727207	43
44	0245.935	0285.888	0328.801	0374.659	8.3908207	8.4561964	8.5169324	8.5736355	44
45	0246.577	0286.579	0329.541	0375.448	8.3919522	8.4572448	8.5179089	8.5745494	45
46	0247.219	0287.271	0330.282	0376.238	8.3930822	8.4582920	8.5188844	8.5754622	46
47	0247.862	0287.964	0331.024	0377.029	8.3942107	8.4593378	8.5198588	8.5763741	47
48	0248.506	0288.657	0331.767	0377.821	8.3953377	8.4603824	8.5208320	8.5772850	48
49	0249.151	0289.351	0332.510	0378.613	8.3964638	8.4614257	8.5218042	8.5781949	49
50	0249.797	0290.046	0333.254	0379.406	8.3975873	8.4624677	8.5227752	8.5791039	50
51	0250.443	0290.742	0333.999	0380.200	8.3987098	8.4635085	8.5237451	8.5800119	51
52	0251.090	0291.439	0334.745	0380.995	8.3998310	8.4645480	8.5247140	8.5809189	52
53	0251.738	0292.137	0335.492	0381.791	8.4009506	8.4655863	8.5256817	8.5818250	53
54	0252.387	0292.835	0336.239	0382.587	8.4020688	8.4666233	8.5266484	8.5827301	54
55	0253.037	0293.534	0336.987	0383.384	8.4031855	8.4676661	8.5276139	8.5836342	55
56	0253.688	0294.234	0337.736	0384.182	8.4043008	8.4686935	8.5285784	8.5845376	56
57	0254.340	0294.935	0338.486	0384.981	8.4054147	8.4697209	8.5295417	8.5854409	57
58	0254.992	0295.637	0339.237	0385.781	8.4065270	8.4707587	8.5305040	8.5863409	58
59	0255.645	0296.340	0339.989	0386.582	8.4076380	8.4717894	8.5314652	8.5872412	59
60	0256.300	0297.043	0340.742	0387.383	8.4087475	8.4728189	8.5324253	8.5881406	60

Sines, and their Logarithms.

Deg. 77, 76, 75, 74

M	L. 77	L. 76	L. 75	L. 74	N. 77	N. 76	N. 75	N. 74	M
60	9.8987736	9.8893291	9.8797140	9.8699243	7920.883	7750.489	7530.781	7411.810	60
59	9.8986176	9.8891703	9.8795522	9.8697590	7918.038	7747.653	7527.954	7409.000	59
58	9.8984615	9.8890114	9.8793905	9.8695949	7915.193	7744.821	7525.137	7406.191	58
57	9.8983054	9.8888524	9.8792286	9.8694301	7912.348	7741.987	7522.315	7403.382	57
56	9.8981492	9.8886935	9.8790666	9.8692653	7909.503	7739.153	7519.493	7400.573	56
55	9.8979930	9.8885341	9.8789048	9.8691004	7906.658	7736.320	7516.671	7397.764	55
54	9.8978367	9.8883754	9.8787429	9.8689355	7903.814	7733.487	7513.850	7394.955	54
53	9.8976804	9.8882162	9.8785809	9.8687705	7900.970	7730.654	7511.029	7392.147	53
52	9.8975241	9.8880571	9.8784188	9.8686056	7898.126	7727.821	7508.208	7389.338	52
51	9.8973676	9.8878979	9.8782567	9.8684405	7895.282	7724.988	7505.387	7386.531	51
50	9.8972112	9.8877386	9.8780946	9.8682754	7892.438	7722.156	7502.566	7383.723	50
49	9.8970547	9.8875792	9.8779323	9.8681102	7889.595	7719.324	7500.746	7380.916	49
48	9.8968982	9.8874199	9.8777701	9.8679450	7886.752	7716.492	7497.926	7378.108	48
47	9.8967416	9.8872604	9.8776078	9.8677797	7883.909	7713.660	7495.106	7375.302	47
46	9.8965850	9.8871010	9.8774454	9.8676145	7881.066	7710.828	7492.286	7372.495	46
45	9.8964283	9.8869415	9.8772830	9.8674491	7878.223	7707.995	7489.466	7369.688	45
44	9.8962716	9.8867819	9.8771206	9.8672837	7875.380	7705.165	7486.646	7366.882	44
43	9.8961148	9.8866223	9.8769581	9.8671182	7872.537	7702.334	7483.826	7364.076	43
42	9.8959580	9.8864627	9.8767955	9.8669527	7869.694	7699.503	7481.010	7361.270	42
41	9.8958011	9.8863029	9.8766329	9.8667871	7866.851	7696.672	7478.191	7358.464	41
40	9.8956442	9.8861432	9.8764703	9.8666216	7864.012	7693.841	7475.372	7355.658	40
39	9.8954872	9.8859834	9.8763076	9.8664559	7861.170	7691.011	7472.554	7352.853	39
38	9.8953302	9.8858236	9.8761447	9.8662902	7858.329	7688.181	7469.735	7350.048	38
37	9.8951731	9.8856637	9.8759821	9.8661244	7855.488	7685.351	7466.918	7347.243	37
36	9.8950161	9.8855038	9.8758192	9.8659586	7852.647	7682.521	7464.100	7344.438	36
35	9.8948589	9.8853437	9.8756563	9.8657927	7849.806	7679.691	7461.283	7341.634	35
34	9.8947017	9.8851837	9.8754934	9.8656269	7846.965	7676.862	7458.466	7338.830	34
33	9.8945445	9.8850236	9.8753304	9.8654609	7844.124	7674.033	7455.649	7336.026	33
32	9.8943872	9.8848635	9.8751674	9.8652949	7841.284	7671.204	7452.832	7333.223	32
31	9.8942299	9.8847033	9.8750043	9.8651288	7838.444	7668.375	7449.916	7330.420	31
30	9.8940725	9.8845431	9.8748412	9.8649627	7835.604	7665.546	7447.100	7327.617	30
29	9.8939150	9.8843828	9.8746780	9.8647965	7832.764	7662.718	7444.284	7324.814	29
28	9.8937576	9.8842225	9.8745147	9.8646303	7829.924	7659.890	7441.468	7322.011	28
27	9.8936000	9.8840621	9.8743514	9.8644641	7827.084	7657.062	7438.652	7319.208	27
26	9.8934424	9.8839017	9.8741881	9.8642978	7824.245	7654.234	7435.836	7316.405	26
25	9.8932848	9.8837412	9.8740247	9.8641314	7821.406	7651.406	7433.020	7313.602	25
24	9.8931272	9.8835807	9.8738613	9.8639650	7818.567	7648.579	7430.206	7310.800	24
23	9.8929695	9.8834202	9.8736978	9.8637985	7815.728	7645.752	7427.391	7307.999	23
22	9.8928117	9.8832596	9.8735343	9.8636320	7812.889	7642.925	7424.576	7305.198	22
21	9.8926539	9.8830989	9.8733707	9.8634655	7810.051	7640.098	7421.761	7302.397	21
20	9.8924961	9.8829382	9.8732071	9.8632989	7807.212	7637.271	7418.946	7299.596	20
19	9.8923381	9.8827774	9.8730434	9.8631322	7804.375	7634.445	7416.131	7296.795	19
18	9.8921802	9.8826167	9.8728797	9.8629655	7801.537	7631.619	7413.316	7293.995	18
17	9.8920222	9.8824558	9.8727159	9.8627987	7798.700	7628.793	7410.501	7291.195	17
16	9.8918642	9.8822949	9.8725521	9.8626319	7795.863	7625.967	7407.686	7288.395	16
15	9.8917061	9.8821339	9.8723882	9.8624650	7793.026	7623.141	7404.871	7285.595	15
14	9.8915480	9.8819730	9.8722243	9.8622981	7790.189	7620.316	7402.056	7282.796	14
13	9.8913900	9.8818119	9.8720603	9.8621314	7787.352	7617.491	7399.241	7279.997	13
12	9.8912316	9.8816508	9.8718963	9.8619642	7784.515	7614.666	7396.426	7277.198	12
11	9.8910733	9.8814897	9.8717322	9.8617971	7781.678	7611.841	7393.611	7274.399	11
10	9.8909150	9.8813285	9.8715682	9.8616300	7778.842	7609.017	7390.796	7271.600	10
9	9.8907566	9.8811672	9.8714041	9.8614628	7776.006	7606.192	7387.981	7268.802	9
8	9.8905982	9.8810060	9.8712398	9.8612956	7773.170	7603.368	7385.166	7266.004	8
7	9.8904397	9.8808446	9.8710755	9.8611283	7770.334	7600.544	7382.351	7263.207	7
6	9.8902812	9.8806833	9.8709112	9.8609610	7767.498	7597.720	7379.536	7260.408	6
5	9.8901226	9.8805218	9.8707458	9.8607936	7764.663	7594.895	7376.721	7257.611	5
4	9.8899640	9.8803604	9.8705804	9.8606262	7761.828	7592.073	7373.906	7254.814	4
3	9.8898054	9.8801988	9.8704179	9.8604587	7758.993	7589.250	7371.091	7252.017	3
2	9.8896466	9.8800372	9.8702534	9.8602912	7756.158	7586.427	7368.276	7249.220	2
1	9.8894879	9.8798756	9.8700888	9.8601235	7753.323	7583.604	7365.461	7246.423	1
0	9.8893291	9.8797140	9.8699243	9.8599560	7750.489	7580.781	7362.646	7243.627	0

Deg. 16, 17, 18, 19. A Table of Natural Versed

M.	N. 16	N. 17	N. 18	N. 19	L. 16	L. 17	L. 18	L. 19	M.
0	387.383	436.952	489.435	544.814	8.5881406	8.6404342	8.6896949	8.7362485	0
1	388.185	437.803	490.334	545.762	8.5890390	8.6412790	8.6904921	8.7370030	1
2	388.988	438.655	491.234	546.710	8.5899365	8.6421231	8.6912886	8.7377570	2
3	389.792	439.508	492.135	547.659	8.5908330	8.6429663	8.6920844	8.7385102	3
4	390.597	440.361	493.037	548.607	8.5917286	8.6438087	8.6928794	8.7392628	4
5	391.402	441.215	493.939	549.555	8.5926232	8.6446502	8.6936736	8.7400147	5
6	392.208	442.070	494.843	550.511	8.5935170	8.6454909	8.6944672	8.7407654	6
7	393.015	442.926	495.747	551.463	8.5944097	8.6463308	8.6952599	8.7415165	7
8	393.823	443.782	496.652	552.416	8.5953016	8.6471698	8.6960520	8.7422664	8
9	394.632	444.639	497.557	553.370	8.5961925	8.6479980	8.6968432	8.7430166	9
10	395.441	445.498	498.464	554.325	8.5970824	8.6488454	8.6976338	8.7437642	10
11	396.251	446.357	499.371	555.280	8.5979715	8.6496820	8.6984236	8.7445121	11
12	397.062	447.216	500.279	556.236	8.5988596	8.6505177	8.6992127	8.7452593	12
13	397.874	448.077	501.188	557.193	8.5997468	8.6513526	8.7000010	8.7460059	13
14	398.687	448.938	502.098	558.151	8.6006330	8.6521867	8.7007886	8.7467518	14
15	399.501	449.801	503.009	559.110	8.6015184	8.6530200	8.7015755	8.7474971	15
16	400.315	450.664	503.920	560.069	8.6024028	8.6538534	8.7023617	8.7482417	16
17	401.130	451.527	504.832	561.029	8.6032863	8.6546841	8.7031471	8.7489857	17
18	401.946	452.392	505.745	561.990	8.6041689	8.6555149	8.7039318	8.7497296	18
19	402.763	453.257	506.659	562.952	8.6050505	8.6563449	8.7047158	8.7504716	19
20	403.581	454.124	507.574	563.915	8.6059313	8.6571741	8.7054990	8.7512136	20
21	404.400	454.991	508.489	564.878	8.6068112	8.6580025	8.7062815	8.7519549	21
22	405.219	455.859	509.405	565.843	8.6076901	8.6588301	8.7070633	8.7526954	22
23	406.039	456.727	510.322	566.808	8.6085681	8.6596569	8.7078444	8.7534357	23
24	406.860	457.597	511.240	567.773	8.6094453	8.6604829	8.7086247	8.7541751	24
25	407.682	458.467	512.158	568.740	8.6103215	8.6613081	8.7094044	8.7549138	25
26	408.505	459.338	513.078	569.707	8.6111968	8.6621324	8.7101833	8.7556519	26
27	409.328	460.210	513.998	570.676	8.6120712	8.6629560	8.7109615	8.7563894	27
28	410.152	461.083	514.919	571.645	8.6129448	8.6637788	8.7117390	8.7571262	28
29	410.977	461.956	515.841	572.614	8.6138174	8.6646008	8.7125157	8.7578623	29
30	411.803	462.830	516.763	573.585	8.6146891	8.6654220	8.7132918	8.7585975	30
31	412.629	463.706	517.687	574.556	8.6155600	8.6662424	8.7140671	8.7593327	31
32	413.456	464.582	518.611	575.529	8.6164299	8.6670620	8.7148418	8.7600670	32
33	414.284	465.458	519.533	576.502	8.6172990	8.6678808	8.7156157	8.7608006	33
34	415.113	466.336	520.461	577.475	8.6181672	8.6686988	8.7163889	8.7615336	34
35	415.947	467.214	521.388	578.450	8.6190345	8.6695160	8.7171614	8.7622659	35
36	416.774	468.093	522.316	579.425	8.6199009	8.6703324	8.7179332	8.7629976	36
37	417.605	468.973	523.244	580.402	8.6207664	8.6711481	8.7187044	8.7637286	37
38	418.437	469.854	524.173	581.379	8.6216331	8.6719630	8.7194748	8.7644591	38
39	419.270	470.736	525.103	582.356	8.6224988	8.6727771	8.7202445	8.7651889	39
40	420.104	471.618	526.034	583.335	8.6233577	8.6735904	8.7210135	8.7659180	40
41	420.939	472.501	526.965	584.314	8.6242197	8.6744029	8.7217818	8.7666466	41
42	421.775	473.385	527.897	585.295	8.6250809	8.6752147	8.7225494	8.7673745	42
43	422.611	474.270	528.830	586.276	8.6259412	8.6760256	8.7233163	8.7681018	43
44	423.448	475.156	529.764	587.257	8.6268006	8.6768358	8.7240825	8.7688284	44
45	424.286	476.042	530.699	588.240	8.6276591	8.6776453	8.7248480	8.7695545	45
46	425.125	476.929	531.634	589.223	8.6285168	8.6784539	8.7256129	8.7702798	46
47	425.964	477.817	532.570	590.207	8.6293736	8.6792618	8.7263770	8.7710046	47
48	426.804	478.706	533.507	591.192	8.6302295	8.6800689	8.7271404	8.7717288	48
49	427.645	479.595	534.445	592.178	8.6310846	8.6808753	8.7279032	8.7724523	49
50	428.487	480.486	535.384	593.164	8.6319388	8.6816809	8.7286653	8.7731757	50
51	429.330	481.377	536.323	594.152	8.6327922	8.6824857	8.7294267	8.7738975	51
52	430.174	482.269	537.264	595.140	8.6336447	8.6832897	8.7301874	8.7746192	52
53	431.018	483.162	538.205	596.129	8.6344964	8.6840930	8.7309474	8.7753405	53
54	431.863	484.055	539.146	597.119	8.6353472	8.6848956	8.7317067	8.7760607	54
55	432.709	484.950	540.089	598.109	8.6361971	8.6856973	8.7324654	8.7767805	55
56	433.554	485.846	541.032	599.101	8.6370462	8.6864984	8.7332233	8.7774997	56
57	434.404	486.742	541.977	600.093	8.6378945	8.6872986	8.7339806	8.7782183	57
58	435.253	487.639	542.922	601.086	8.6387419	8.6880981	8.7347373	8.7789363	58
59	436.102	488.536	543.866	602.079	8.6395884	8.6888969	8.7354932	8.7796537	59
60	436.952	489.435	544.814	603.074	8.6404342	8.6896949	8.7362485	8.7803705	60

Sines, and their Logarithms

Deg. 73, 72, 71, 70

M	L. 73	L. 72	L. 71	L. 70	N. 73	N. 72	N. 71	N. 70	M
60	9.8599560	9.8498052	9.8394674	9.8289381	7243.627	7076.283	6909.830	6744.318	60
59	9.8597883	9.8496344	9.8392934	9.8287609	7240.831	7073.501	6907.064	6741.568	59
58	9.8596206	9.8494636	9.8391195	9.8285837	7238.035	7070.720	6904.298	6738.819	58
57	9.8594529	9.8492928	9.8389455	9.8284065	7235.239	7067.939	6901.532	6736.069	57
56	9.8592851	9.8491219	9.8387714	9.8282292	7232.444	7065.158	6898.766	6733.319	56
55	9.8591171	9.8489509	9.8385973	9.8280518	7229.649	7062.377	6896.001	6730.570	55
54	9.8589492	9.8487799	9.8384233	9.8278744	7226.854	7059.597	6893.236	6727.821	54
53	9.8587812	9.8486088	9.8382489	9.8276969	7224.059	7056.817	6890.471	6725.073	53
52	9.8586132	9.8484377	9.8380746	9.8275194	7221.265	7054.037	6887.706	6722.325	52
51	9.8584451	9.8482665	9.8379003	9.8273418	7218.471	7051.257	6884.942	6719.577	51
50	9.8582770	9.8480953	9.8377259	9.8271642	7215.677	7048.477	6882.178	6716.829	50
49	9.8581088	9.8479240	9.8375514	9.8269865	7212.883	7045.698	6879.414	6714.082	49
48	9.8579406	9.8477527	9.8373770	9.8268088	7210.089	7042.919	6876.651	6711.335	48
47	9.8577723	9.8475815	9.8372024	9.8266310	7207.296	7040.140	6873.888	6708.588	47
46	9.8576040	9.8474103	9.8370278	9.8264532	7204.503	7037.362	6871.125	6705.841	46
45	9.8574356	9.8472384	9.8368531	9.8262753	7201.710	7034.584	6868.362	6703.094	45
44	9.8572672	9.8470669	9.8366785	9.8260973	7198.918	7031.806	6865.600	6700.348	44
43	9.8570987	9.8468953	9.8365037	9.8259193	7196.126	7029.028	6862.838	6697.602	43
42	9.8569302	9.8467237	9.8363289	9.8257412	7193.334	7026.250	6860.076	6694.856	42
41	9.8567615	9.8465520	9.8361540	9.8255631	7190.542	7023.473	6857.314	6692.111	41
40	9.8565929	9.8463802	9.8359791	9.8253849	7187.750	7020.696	6854.552	6689.364	40
39	9.8564242	9.8462084	9.8358041	9.8252067	7184.959	7017.919	6851.791	6686.621	39
38	9.8562555	9.8460366	9.8356291	9.8250284	7182.167	7015.143	6849.030	6683.877	38
37	9.8560867	9.8458647	9.8354545	9.8248501	7179.377	7012.367	6846.269	6681.133	37
36	9.8559179	9.8456927	9.8352782	9.8246717	7176.586	7009.591	6843.509	6678.389	36
35	9.8557489	9.8455207	9.8351037	9.8244932	7173.796	7006.815	6840.749	6675.645	35
34	9.8555800	9.8453487	9.8349285	9.8243147	7171.005	7004.040	6837.989	6672.902	34
33	9.8554110	9.8451765	9.8347531	9.8241361	7168.215	7001.265	6835.230	6670.159	33
32	9.8552420	9.8450044	9.8345778	9.8239576	7165.426	6998.490	6832.471	6667.415	32
31	9.8550728	9.8448322	9.8344024	9.8237785	7162.636	6995.716	6829.712	6664.673	31
30	9.8549037	9.8446600	9.8342269	9.8236002	7159.847	6992.942	6826.953	6661.931	30
29	9.8547345	9.8444876	9.8340514	9.8234213	7157.058	6990.168	6824.195	6659.189	29
28	9.8545653	9.8443152	9.8338759	9.8232425	7154.269	6987.394	6821.437	6656.447	28
27	9.8543959	9.8441428	9.8337002	9.8230636	7151.480	6984.620	6818.679	6653.706	27
26	9.8542266	9.8439703	9.8335246	9.8228847	7148.692	6981.847	6815.921	6650.965	26
25	9.8540572	9.8437978	9.8333488	9.8227057	7145.904	6979.074	6813.163	6648.224	25
24	9.8538877	9.8436252	9.8331731	9.8225266	7143.116	6976.301	6810.406	6645.484	24
23	9.8537182	9.8434526	9.8329972	9.8223475	7140.328	6973.528	6807.649	6642.744	23
22	9.8535486	9.8432799	9.8328213	9.8221684	7137.541	6970.756	6804.892	6640.004	22
21	9.8533790	9.8431071	9.8326454	9.8219891	7134.754	6967.984	6802.136	6637.264	21
20	9.8532094	9.8429344	9.8324694	9.8218099	7131.967	6965.212	6799.380	6634.525	20
19	9.8530396	9.8427615	9.8322933	9.8216305	7129.181	6962.441	6796.625	6631.786	19
18	9.8528699	9.8425886	9.8321172	9.8214511	7126.395	6959.670	6793.870	6629.047	18
17	9.8527000	9.8424156	9.8319411	9.8212717	7123.609	6956.899	6791.115	6626.309	17
16	9.8525302	9.8422427	9.8317649	9.8210922	7120.823	6954.128	6788.360	6623.571	16
15	9.8523602	9.8420696	9.8315886	9.8209126	7118.037	6951.357	6785.605	6620.833	15
14	9.8521903	9.8418965	9.8314123	9.8207330	7115.252	6948.587	6782.850	6618.095	14
13	9.8520202	9.8417233	9.8312359	9.8205533	7112.467	6945.817	6780.095	6615.358	13
12	9.8518502	9.8415501	9.8310595	9.8203736	7109.682	6943.047	6777.341	6612.621	12
11	9.8516800	9.8413768	9.8308830	9.8201938	7106.897	6940.277	6774.588	6609.884	11
10	9.8515099	9.8412035	9.8307064	9.8200140	7104.112	6937.508	6771.835	6607.148	10
9	9.8513396	9.8410301	9.8305298	9.8198341	7101.328	6934.739	6769.082	6604.412	9
8	9.8511693	9.8408567	9.8303532	9.8196542	7098.544	6931.970	6766.325	6601.676	8
7	9.8509990	9.8406832	9.8301765	9.8194741	7095.760	6929.202	6763.577	6598.940	7
6	9.8508286	9.8405097	9.8299997	9.8192941	7092.977	6926.434	6760.825	6596.205	6
5	9.8506581	9.8403361	9.8298229	9.8191140	7090.194	6923.666	6758.073	6593.470	5
4	9.8504877	9.8401625	9.8296461	9.8189338	7087.411	6920.898	6755.321	6590.735	4
3	9.8503171	9.8399887	9.8294691	9.8187536	7084.629	6918.131	6752.570	6588.001	3
2	9.8501465	9.8398150	9.8292922	9.8185733	7081.847	6915.364	6749.819	6585.267	2
1	9.8499759	9.8396412	9.8291151	9.8183930	7079.065	6912.597	6747.068	6582.533	1
0	9.8498052	9.8394674	9.8289381	9.8182126	7076.283	6909.830	6744.318	6579.799	0

Deg. 20, 21, 22, 23.

A Table of Natural Veried

N. 20	N. 21	N. 22	N. 23	L. 20	L. 21	L. 22	L. 23	M
0603.073	0664.196	0728.161	0794.951	8.7803 05	8.8222951	8.8622277	8.9003406	0
1 0604.069	0665.235	0729.251	0796.006	8.7810863	8.8229771	8.8628771	8.9009611	1
2 0605.065	0666.282	0730.342	0797.226	8.7818022	8.8236582	8.8635265	8.9015816	2
3 0606.062	0667.327	0731.434	0798.365	8.7825168	8.8243382	8.8641745	8.9022011	3
4 0607.050	0668.372	0732.526	0799.504	8.7832314	8.8250182	8.8648233	8.9028207	4
5 0608.058	0669.418	0733.619	0800.644	8.7839499	8.8256970	8.8654707	8.9034393	5
6 0609.057	0670.465	0734.713	0801.785	8.7846533	8.8263755	8.8661181	8.9040579	6
7 0610.058	0671.512	0735.808	0802.927	8.7853705	8.8270537	8.8667645	8.9046757	7
8 0611.059	0672.561	0736.904	0804.069	8.7860827	8.8277314	8.8674109	8.9052934	8
9 0612.060	0673.610	0738.000	0805.212	8.7867937	8.8284081	8.8680563	8.9059102	9
10 0613.062	0674.660	0739.097	0806.356	8.7875047	8.8290848	8.8687018	8.9065270	10
11 0614.066	0675.711	0740.195	0807.501	8.7882146	8.8297604	8.8693462	8.9071429	11
12 0615.070	0676.762	0741.294	0808.647	8.7889244	8.8304360	8.8699906	8.9077588	12
13 0616.075	0677.814	0742.394	0809.793	8.7896330	8.8311105	8.8706340	8.9083738	13
14 0617.080	0678.867	0743.494	0810.940	8.7903416	8.8317850	8.8712774	8.9089887	14
15 0618.087	0679.921	0744.595	0812.088	8.7910491	8.8324584	8.8719198	8.9096028	15
16 0619.094	0680.976	0745.697	0813.237	8.7917565	8.8331318	8.8725622	8.9102169	16
17 0620.102	0682.031	0746.800	0814.386	8.7924627	8.8338041	8.8732037	8.9108301	17
18 0621.111	0683.088	0747.903	0815.536	8.7931690	8.8344765	8.8738452	8.9114432	18
19 0622.120	0684.145	0749.007	0816.687	8.7938740	8.8351477	8.8744856	8.9120555	19
20 0623.131	0685.203	0750.112	0817.839	8.7945791	8.8358190	8.8751201	8.9126678	20
21 0624.142	0686.261	0751.218	0818.991	8.7952830	8.8364892	8.8757651	8.9132792	21
22 0625.154	0687.321	0752.324	0820.145	8.7959869	8.8371594	8.8764051	8.9138905	22
23 0626.167	0688.383	0753.431	0821.295	8.7966868	8.8378285	8.8770482	8.9145010	23
24 0627.180	0689.442	0754.535	0822.450	8.7973923	8.8384976	8.8776861	8.9151115	24
25 0628.194	0690.504	0755.648	0823.609	8.7980938	8.8391657	8.8783196	8.9157211	25
26 0629.210	0691.566	0756.758	0824.766	8.7987953	8.8398337	8.8789571	8.9163306	26
27 0630.226	0692.630	0757.869	0825.923	8.7994957	8.8405007	8.8795937	8.9169393	27
28 0631.242	0693.694	0758.980	0827.081	8.8001961	8.8411677	8.8802303	8.9175480	28
29 0632.260	0694.755	0760.092	0828.240	8.8008953	8.8418337	8.8808659	8.9181558	29
30 0633.278	0695.824	0761.205	0829.399	8.8015945	8.8424996	8.8815014	8.9187636	30
31 0634.297	0696.891	0762.318	0830.560	8.8022925	8.8431645	8.8821351	8.9193706	31
32 0635.317	0697.956	0763.432	0831.721	8.8029906	8.8438294	8.8827707	8.9199775	32
33 0636.338	0699.020	0764.547	0832.882	8.8036874	8.8444932	8.8834044	8.9205835	33
34 0637.359	0700.095	0765.663	0834.045	8.8043843	8.8451570	8.8840380	8.9211895	34
35 0638.382	0701.164	0766.780	0835.209	8.8050811	8.8458108	8.8846707	8.9217947	35
36 0639.405	0702.235	0767.897	0836.373	8.8057758	8.8464826	8.8853034	8.9223999	36
37 0640.429	0703.306	0769.015	0837.538	8.8064704	8.8471443	8.8859353	8.9230041	37
38 0641.453	0704.378	0770.134	0838.703	8.8071649	8.8478060	8.8865669	8.9236084	38
39 0642.475	0705.451	0771.254	0839.870	8.8078584	8.8484667	8.8871977	8.9242118	39
40 0643.505	0706.525	0772.375	0841.037	8.8085518	8.8491274	8.8878285	8.9248152	40
41 0644.532	0707.599	0773.496	0842.205	8.8092441	8.8497871	8.8884584	8.9254177	41
42 0645.560	0708.674	0774.618	0843.374	8.8099364	8.8504467	8.8890882	8.9260202	42
43 0646.588	0709.750	0775.741	0844.544	8.8106276	8.8511053	8.8897171	8.9266219	43
44 0647.618	0710.827	0776.865	0845.714	8.8113187	8.8517639	8.8903460	8.9272235	44
45 0648.648	0711.904	0777.990	0846.885	8.8120087	8.8524215	8.8909739	8.9278243	45
46 0649.679	0712.983	0779.116	0848.057	8.8126988	8.8530790	8.8916019	8.9284251	46
47 0650.711	0714.062	0780.242	0849.230	8.8133876	8.8537356	8.8922289	8.9290250	47
48 0651.743	0715.142	0781.369	0850.403	8.8140765	8.8543921	8.8928555	8.9296249	48
49 0652.777	0716.223	0782.496	0851.578	8.8147643	8.8550476	8.8934820	8.9302240	49
50 0653.811	0717.304	0783.624	0852.753	8.8154521	8.8557032	8.8941080	8.9308231	50
51 0654.846	0718.386	0784.753	0853.928	8.8161397	8.8563576	8.8947331	8.9314212	51
52 0655.881	0719.469	0785.883	0855.105	8.8168253	8.8570121	8.8953583	8.9320193	52
53 0656.918	0720.553	0787.014	0856.282	8.8175108	8.8576656	8.8959823	8.9326168	53
54 0657.955	0721.637	0788.145	0857.460	8.8181954	8.8583191	8.8966066	8.9332141	54
55 0658.993	0722.723	0789.277	0858.639	8.8188803	8.8589715	8.8972295	8.9338106	55
56 0660.032	0723.806	0790.410	0859.819	8.8195652	8.8596240	8.8978532	8.9344070	56
57 0661.072	0724.890	0791.544	0860.999	8.8202484	8.8602754	8.8984755	8.9350027	57
58 0662.112	0725.952	0792.679	0862.181	8.8209317	8.8609268	8.8990978	8.9355983	58
59 0663.154	0727.077	0793.815	0863.363	8.8216139	8.8615773	8.8997192	8.9361931	59
60 0664.196	0728.161	0794.951	0864.545	8.8222951	8.8622277	8.9003406	8.9367878	60

Sines, and their Logarithms.

Deg. 69, 68, 67, 66.

	L. 69	L. 68	L. 67	L. 66	N. 69	N. 68	N. 67	N. 66	M
60	9.8182126	9.8072860	9.7961533	9.7848090	6579.799	6416.321	6253.934	6092.685	60
59	9.8180321	9.8071022	9.7959659	9.7846181	6577.066	6413.605	6251.237	6090.011	59
58	9.8178116	9.8069183	9.7957786	9.7844271	6574.333	6410.890	6248.540	6087.334	58
57	9.8176711	9.8067343	9.7955911	9.7842361	6571.600	6408.175	6245.844	6084.657	57
56	9.8174905	9.8065503	9.7954037	9.7840450	6568.867	6405.460	6243.148	6081.980	56
55	9.8173098	9.8063662	9.7952161	9.7838539	6566.135	6402.746	6240.452	6079.304	55
54	9.8171291	9.8061811	9.7950285	9.7836627	6563.403	6400.032	6237.757	6076.628	54
53	9.8169483	9.8059979	9.7948408	9.7834714	6560.671	6397.318	6235.062	6073.952	53
52	9.8167675	9.8058137	9.7946531	9.7832801	6557.940	6394.605	6232.367	6071.277	52
51	9.8165865	9.8056294	9.7944652	9.7830887	6555.209	6391.892	6229.673	6068.602	51
50	9.8164055	9.8054451	9.7942774	9.7828973	6552.477	6389.179	6226.979	6065.927	50
49	9.8162246	9.8052606	9.7940895	9.7827058	6549.747	6386.467	6224.285	6063.254	49
48	9.8160435	9.8050762	9.7939015	9.7825143	6547.017	6383.755	6221.592	6060.580	48
47	9.8158624	9.8048916	9.7937135	9.7823226	6544.287	6381.043	6218.899	6057.907	47
46	9.8156812	9.8047070	9.7935254	9.7821309	6541.558	6378.331	6216.206	6055.234	46
45	9.8155000	9.8045224	9.7933372	9.7819392	6538.829	6375.620	6213.514	6052.561	45
44	9.8153187	9.8043377	9.7931491	9.7817474	6536.100	6372.909	6210.822	6049.888	44
43	9.8151373	9.8041529	9.7929608	9.7815555	6533.371	6370.198	6208.130	6047.216	43
42	9.8149560	9.8039681	9.7927725	9.7813636	6530.643	6367.488	6205.438	6044.544	42
41	9.8147745	9.8037832	9.7925841	9.7811716	6527.915	6364.778	6202.747	6041.872	41
40	9.8145930	9.8035983	9.7923956	9.7809796	6525.187	6362.068	6200.056	6039.201	40
39	9.8144114	9.8034133	9.7922071	9.7807874	6522.460	6359.358	6197.365	6036.530	39
38	9.8142298	9.8032283	9.7920187	9.7805953	6519.733	6356.649	6194.675	6033.860	38
37	9.8140481	9.8030434	9.7918299	9.7804030	6517.006	6353.940	6191.985	6031.190	37
36	9.8138664	9.8028585	9.7916413	9.7802108	6514.279	6351.232	6189.296	6028.520	36
35	9.8136846	9.8026727	9.7914525	9.7800184	6511.553	6348.524	6186.607	6025.851	35
34	9.8135027	9.8024875	9.7912637	9.7798260	6509.027	6345.816	6183.918	6023.182	34
33	9.8133208	9.8023021	9.7910748	9.7796335	6506.501	6343.108	6181.229	6020.513	33
32	9.8131389	9.8021167	9.7908859	9.7794410	6503.976	6340.401	6178.541	6017.845	32
31	9.8129569	9.8019313	9.7906969	9.7792484	6501.451	6337.693	6175.853	6015.177	31
30	9.8127748	9.8017458	9.7905079	9.7790558	6497.925	6334.983	6173.166	6012.509	30
29	9.8125926	9.8015602	9.7903188	9.7788630	6495.401	6332.282	6170.479	6009.841	29
28	9.8124104	9.8013746	9.7901297	9.7786703	6492.477	6329.576	6167.792	6007.174	28
27	9.8122282	9.8011889	9.7899404	9.7784774	6489.753	6326.870	6165.105	6004.507	27
26	9.8120459	9.8010031	9.7897512	9.7782845	6487.029	6324.165	6162.419	6001.841	26
25	9.8118635	9.8008173	9.7895618	9.7780915	6484.306	6321.459	6159.733	5999.175	25
24	9.8116811	9.8006315	9.7893725	9.7778985	6481.583	6318.754	6157.047	5996.509	24
23	9.8114986	9.8004455	9.7891830	9.7777054	6478.860	6316.049	6154.362	5993.844	23
22	9.8113161	9.8002596	9.7889935	9.7775123	6476.138	6313.345	6151.677	5991.179	22
21	9.8111335	9.8000735	9.7888039	9.7773191	6473.416	6310.641	6148.992	5988.514	21
20	9.8109509	9.7998875	9.7886143	9.7771258	6470.694	6307.938	6146.308	5985.850	20
19	9.8107682	9.7997013	9.7884245	9.7769325	6467.973	6305.235	6143.624	5983.186	19
18	9.8105851	9.7995151	9.7882348	9.7767391	6465.252	6302.532	6140.940	5980.522	18
17	9.8104026	9.7993288	9.7880450	9.7765456	6462.531	6299.830	6138.257	5977.859	17
16	9.8102197	9.7991425	9.7878551	9.7763521	6459.810	6297.128	6135.574	5975.196	16
15	9.8100368	9.7989561	9.7876652	9.7761585	6457.090	6294.426	6132.891	5972.533	15
14	9.8098538	9.7987697	9.7874752	9.7759649	6454.370	6291.724	6130.209	5969.870	14
13	9.8096708	9.7985831	9.7872851	9.7757712	6451.650	6289.023	6127.527	5967.208	13
12	9.8094877	9.7983960	9.7870950	9.7755775	6448.930	6286.322	6124.845	5964.546	12
11	9.8093045	9.7982099	9.7869048	9.7753836	6446.211	6283.621	6122.163	5961.885	11
10	9.8091213	9.7980233	9.7867146	9.7751898	6443.492	6280.920	6119.482	5959.224	10
9	9.8089380	9.7978365	9.7865243	9.7749958	6440.773	6278.220	6116.801	5956.563	9
8	9.8087547	9.7976498	9.7863340	9.7748018	6438.055	6275.520	6114.120	5953.902	8
7	9.8085713	9.7974629	9.7861435	9.7746077	6435.337	6272.820	6111.440	5951.241	7
6	9.8083879	9.7972760	9.7859531	9.7744136	6432.620	6270.122	6108.760	5948.580	6
5	9.8082044	9.7970890	9.7857625	9.7742194	6429.903	6267.423	6106.081	5945.919	5
4	9.8080208	9.7969020	9.7855720	9.7740252	6427.186	6264.725	6103.402	5943.258	4
3	9.8078372	9.7967149	9.7853813	9.7738308	6424.469	6262.027	6100.723	5940.597	3
2	9.8076536	9.7965278	9.7851906	9.7736365	6421.753	6259.329	6098.045	5937.936	2
1	9.8074698	9.7963405	9.7850000	9.7734420	6419.037	6256.631	6095.367	5935.275	1
0	9.8072860	9.7961534	9.7848090	9.7732475	6416.321	6253.934	6092.685	5932.614	0

Deg. 24, 25, 26, 27, A Table of Natural Versed

N. 24	N. 25	N. 26	N. 27.	L. 24	L. 25	L. 26	L. 27	M
0864.745	0936.922	1012.260	1089.935	8.9367878	8.9717035	9.0052061	9.0374005	0
1 0865.725	0938.152	1013.335	1091.256	8.9373817	8.9722729	9.0057529	9.0374264	1
2 865.913	939.382	1014.612	1092.577	8.9379756	8.9728424	9.0062997	9.0384522	2
3 868.096	940.614	1015.888	1093.900	8.9385687	8.9734111	9.0068458	9.0389774	3
4 869.284	941.846	1017.166	1095.223	8.9391618	8.9739797	9.0073920	9.0395026	4
5 870.471	943.078	1018.445	1096.547	8.9397540	8.9745476	9.0079344	9.0400272	5
6 871.658	944.312	1019.724	1097.872	8.9403462	8.9751155	9.0084827	9.0405517	6
7 0872.846	945.546	1021.004	1099.197	8.9409376	8.9756826	9.0090274	9.0410755	7
8 874.035	946.781	1022.285	1100.524	8.9415290	8.9762497	9.0095721	9.0415944	8
9 875.225	948.017	1023.567	1101.851	8.9421195	8.9768161	9.0101160	9.0421226	9
10 876.416	949.254	1024.849	1103.178	8.9427101	8.9773824	9.0106600	9.0426458	10
11 877.607	950.491	1026.132	1104.507	8.9432998	8.9779480	9.0112032	9.0431683	11
12 878.795	951.729	1027.416	1105.836	8.9438895	8.9785135	9.0117465	9.0436908	12
13 0879.992	952.968	1028.701	1107.166	8.9444783	8.9790783	9.0122898	9.0442127	13
14 881.185	954.208	1029.986	1108.497	8.9450672	8.9796431	9.0128315	9.0447345	14
15 882.380	955.449	1031.273	1109.829	8.9456552	8.9802071	9.0133733	9.0452557	15
16 883.575	956.690	1032.560	1111.161	8.9462433	8.9807711	9.0139154	9.0457769	16
17 884.771	957.932	1033.847	1112.494	8.9468305	8.9813344	9.0144562	9.0462975	17
18 885.967	959.175	1035.136	1113.828	8.9474177	8.9818976	9.0149973	9.0468180	18
19 0887.165	960.418	1036.425	1115.162	8.9480040	8.9824601	9.0155377	9.0473379	19
20 888.363	961.662	1037.715	1116.497	8.9485904	8.9830226	9.0160781	9.0478578	20
21 889.562	962.907	1039.006	1117.834	8.9491759	8.9835843	9.0166177	9.0483770	21
22 890.762	964.153	1040.297	1119.170	8.9497615	8.9841460	9.0171574	9.0488962	22
23 891.962	965.400	1041.588	1120.508	8.9503462	8.9847070	9.0176964	9.0494147	23
24 893.163	966.647	1042.882	1121.846	8.9509309	8.9852679	9.0182353	9.0499333	24
25 0894.365	967.895	1044.176	1123.185	8.9515148	8.9858281	9.0187736	9.0504512	25
26 895.568	969.144	1045.471	1124.525	8.9520982	8.9863883	9.0193119	9.0509691	26
27 896.771	970.394	1046.766	1125.866	8.9526818	8.9869478	9.0198494	9.0514864	27
28 897.976	971.644	1048.062	1127.207	8.9532648	8.9875072	9.0203870	9.0520036	28
29 899.181	972.895	1049.359	1128.549	8.9538471	8.9880659	9.0209238	9.0525202	29
30 900.387	974.147	1050.656	1129.892	8.9544294	8.9886246	9.0214607	9.0530368	30
31 0901.594	975.400	1051.955	1131.235	8.9550108	8.9891825	9.0219969	9.0535528	31
32 902.801	976.653	1053.254	1132.580	8.9555922	8.9897404	9.0225330	9.0540687	32
33 904.010	977.908	1054.554	1133.925	8.9561729	8.9902976	9.0230685	9.0545840	33
34 905.219	979.162	1055.855	1135.270	8.9567535	8.9908548	9.0236039	9.0550993	34
35 906.428	980.418	1057.156	1136.617	8.9573333	8.9914112	9.0241387	9.0556140	35
36 907.639	981.675	1058.458	1137.964	8.9579131	8.9919676	9.0246735	9.0561286	36
37 0908.850	982.932	1059.760	1139.312	8.9584921	8.9925233	9.0252076	9.0566426	37
38 910.062	984.190	1061.064	1140.661	8.9590711	8.9930790	9.0257416	9.0571566	38
39 911.275	985.449	1062.368	1142.011	8.9596493	8.9936339	9.0262750	9.0576700	39
40 912.489	986.708	1063.674	1143.361	8.9602275	8.9941888	9.0268084	9.0581833	40
41 913.703	987.969	1064.979	1144.712	8.9608049	8.9947430	9.0273411	9.0586961	41
42 914.918	989.230	1066.286	1146.064	8.9613823	8.9952972	9.0278738	9.0592088	42
43 0916.134	990.492	1067.594	1147.416	8.9619598	8.9958506	9.0284058	9.0597205	43
44 917.351	991.754	1068.902	1148.770	8.9625355	8.9964041	9.0289378	9.0602329	44
45 918.568	993.018	1070.211	1150.124	8.9631112	8.9969568	9.0294691	9.0607444	45
46 919.786	994.282	1071.520	1151.478	8.9636870	8.9975095	9.0300004	9.0612558	46
47 921.000	995.547	1072.831	1152.834	8.9642620	8.9980614	9.0305310	9.0617666	47
48 922.225	996.812	1074.142	1154.191	8.9648370	8.9986134	9.0310616	9.0622774	48
49 0923.441	998.079	1075.454	1155.547	8.9654122	8.9991646	9.0315916	9.0627876	49
50 924.667	999.346	1076.766	1156.905	8.9659854	8.9997158	9.0321215	9.0632977	50
51 925.885	1000.614	1078.080	1158.264	8.9665588	9.0002663	9.0326505	9.0638073	51
52 927.112	1001.883	1079.394	1159.623	8.9671322	9.0008168	9.0331800	9.0643168	52
53 928.335	1003.152	1080.709	1160.983	8.9677048	9.0013666	9.0337085	9.0648257	53
54 929.560	1004.422	1082.025	1162.344	8.9682774	9.0019163	9.0342372	9.0653346	54
55 0930.785	1005.694	1083.341	1163.705	8.9688492	9.0024653	9.0347651	9.0658428	55
56 932.011	1006.965	1084.658	1165.068	8.9694210	9.0030144	9.0352930	9.0663511	56
57 933.238	1008.237	1085.976	1166.431	8.9699900	9.0035626	9.0358202	9.0668587	57
58 934.465	1009.511	1087.295	1167.794	8.9705630	9.0041109	9.0363474	9.0673663	58
59 935.693	1010.785	1088.615	1169.159	8.9711333	9.0046585	9.0368740	9.0678733	59
60 936.922	1012.060	1089.935	1170.524	8.9717035	9.0052061	9.0374005	9.0683803	60

Sines, and their Logarithms.

Deg. 65, 64, 63, 62

M	L. 65	L. 64	L. 63	L. 62	N. 65	N. 64	N. 63	N. 62	M
60	9.7732475	9.7614630	9.7494494	9.7372002	5932.634	5773.817	5616.288	5460.095	60
59	9.7730529	9.7612647	9.7492472	9.7369940	5929.977	5771.181	5613.674	5457.703	59
58	9.7728583	9.7610663	9.7490449	9.7367878	5927.320	5768.545	5611.060	5454.912	58
57	9.7726636	9.7608678	9.7488426	9.7365814	5924.663	5765.910	5608.446	5452.321	57
56	9.7724689	9.7606693	9.7486402	9.7363750	5922.007	5763.275	5605.833	5449.730	56
55	9.7722741	9.7604707	9.7484377	9.7361686	5919.351	5760.640	5603.220	5447.140	55
54	9.7720792	9.7602721	9.7482352	9.7359621	5916.695	5758.006	5600.608	5444.550	54
53	9.7718842	9.7600733	9.7480326	9.7357554	5914.040	5755.372	5597.996	5441.961	53
52	9.7716893	9.7598746	9.7478299	9.7355488	5911.385	5752.738	5595.384	5439.372	52
51	9.7714942	9.7596757	9.7476272	9.7353421	5908.731	5750.105	5592.773	5436.784	51
50	9.7712991	9.7594769	9.7474244	9.7351353	5906.077	5747.472	5590.162	5434.196	50
49	9.7711039	9.7592779	9.7472215	9.7349284	5903.423	5744.839	5587.551	5431.608	49
48	9.7709087	9.7590789	9.7470186	9.7347215	5900.769	5742.207	5584.941	5429.021	48
47	9.7707133	9.7588797	9.7468156	9.7345145	5898.116	5739.575	5582.331	5426.434	47
46	9.7705180	9.7586806	9.7466126	9.7343074	5895.463	5736.944	5579.722	5423.847	46
45	9.7703225	9.7584813	9.7464094	9.7341003	5892.811	5734.313	5577.113	5421.261	45
44	9.7701271	9.7582821	9.7462063	9.7338931	5890.159	5731.682	5574.504	5418.675	44
43	9.7699315	9.7580827	9.7460030	9.7336858	5887.507	5729.051	5571.896	5416.089	43
42	9.7697359	9.7578833	9.7457997	9.7334785	5884.854	5726.421	5569.288	5413.504	42
41	9.7695402	9.7576838	9.7455963	9.7332711	5882.205	5723.791	5566.680	5410.919	41
40	9.7693444	9.7574843	9.7453928	9.7330636	5879.554	5721.162	5564.073	5408.335	40
39	9.7691486	9.7572846	9.7451893	9.7328560	5876.904	5718.533	5561.466	5405.751	39
38	9.7689528	9.7570850	9.7449857	9.7326485	5874.254	5715.904	5558.860	5403.167	38
37	9.7687568	9.7568852	9.7447821	9.7324408	5871.603	5713.275	5556.254	5400.584	37
36	9.7685608	9.7566854	9.7445784	9.7322331	5868.956	5710.648	5553.648	5398.001	36
35	9.7683647	9.7564855	9.7443745	9.7320252	5866.307	5708.021	5551.043	5395.419	35
34	9.7681687	9.7562856	9.7441707	9.7318174	5863.655	5705.394	5548.438	5392.837	34
33	9.7679724	9.7560856	9.7439668	9.7316094	5861.011	5702.767	5545.833	5390.256	33
32	9.7677762	9.7558856	9.7437628	9.7314014	5858.363	5700.141	5543.229	5387.675	32
31	9.7675799	9.7556854	9.7435587	9.7311933	5855.715	5697.515	5540.625	5385.094	31
30	9.7673835	9.7554853	9.7433547	9.7309852	5853.068	5694.889	5538.024	5382.514	30
29	9.7671871	9.7552850	9.7431505	9.7307769	5850.421	5692.264	5535.419	5379.933	29
28	9.7669906	9.7550847	9.7429462	9.7305686	5847.774	5689.639	5532.816	5377.354	28
27	9.7667940	9.7548843	9.7427419	9.7303603	5845.128	5687.014	5530.214	5374.775	27
26	9.7665974	9.7546839	9.7425375	9.7301519	5842.482	5684.390	5527.612	5372.196	26
25	9.7664007	9.7544838	9.7423331	9.7299433	5839.837	5681.766	5525.010	5369.618	25
24	9.7662040	9.7542838	9.7421286	9.7297348	5837.192	5679.142	5522.409	5367.040	24
23	9.7660071	9.7540821	9.7419240	9.7295261	5834.547	5676.519	5519.808	5364.462	23
22	9.7658103	9.7538814	9.7417193	9.7293175	5831.905	5673.896	5517.208	5361.885	22
21	9.7656133	9.7536806	9.7415146	9.7291087	5829.259	5671.274	5514.608	5359.308	21
20	9.7654164	9.7534798	9.7413099	9.7288999	5826.615	5668.652	5512.008	5356.732	20
19	9.7652193	9.7532789	9.7411050	9.7286909	5823.972	5666.030	5509.409	5354.156	19
18	9.7650222	9.7530779	9.7409001	9.7284820	5821.329	5663.409	5506.810	5351.580	18
17	9.7648249	9.7528769	9.7406951	9.7282725	5818.687	5660.788	5504.212	5349.005	17
16	9.7646277	9.7526758	9.7404901	9.7280638	5816.045	5658.167	5501.614	5346.430	16
15	9.7644304	9.7524746	9.7402849	9.7278546	5813.403	5655.547	5499.016	5343.855	15
14	9.7642330	9.7522734	9.7400798	9.7276454	5810.761	5652.927	5496.418	5341.281	14
13	9.7640355	9.7520721	9.7398745	9.7274360	5808.120	5650.307	5493.821	5338.707	13
12	9.7638381	9.7518708	9.7396692	9.7272267	5805.479	5647.688	5491.224	5336.134	12
11	9.7636405	9.7516693	9.7394638	9.7270172	5802.838	5645.069	5488.628	5333.561	11
10	9.7634429	9.7514679	9.7392584	9.7268077	5800.198	5642.451	5486.032	5330.988	10
9	9.7632451	9.7512663	9.7390528	9.7265981	5797.558	5639.833	5483.437	5328.416	9
8	9.7630474	9.7510647	9.7388473	9.7263885	5794.915	5637.215	5480.842	5325.844	8
7	9.7628496	9.7508630	9.7386416	9.7261787	5792.280	5634.598	5478.242	5323.273	7
6	9.7626517	9.7506613	9.7384359	9.7259689	5789.641	5631.981	5475.653	5320.702	6
5	9.7624537	9.7504594	9.7382301	9.7257590	5787.003	5629.365	5473.059	5318.131	5
4	9.7622557	9.7502576	9.7380243	9.7255491	5784.365	5626.749	5470.465	5315.561	4
3	9.7620576	9.7500556	9.7378183	9.7253391	5781.727	5624.133	5467.872	5312.991	3
2	9.7618595	9.7498536	9.7376124	9.7251290	5779.090	5621.518	5465.279	5310.422	2
1	9.7616613	9.7496515	9.7374063	9.7249188	5776.453	5618.903	5462.687	5307.853	1
0	9.7614630	9.7494494	9.7372002	9.7247087	5773.817	5616.288	5460.095	5305.284	0

Deg. 8, 9, 10, 11.

A Table of Natural Veried

M	N. 8	N. 9	N. 10	N. 11	L. 8	L. 9	L. 10	L. 11	M
0	097.319	0123.117	0151.923	0183.728	7.9881990	8.0903166	8.1816220	8.2641757	0
1	097.724	0123.573	0152.428	0184.284	7.9900038	8.0919203	8.1830648	8.2654867	1
2	98.130	124.025	152.934	184.840	7.9918047	8.0935210	8.1845051	8.2667957	2
3	98.537	124.486	153.441	185.397	7.9936020	8.0951188	8.1859431	8.2681028	3
4	98.935	124.944	153.949	185.955	7.9953955	8.0967136	8.1873786	8.2694078	4
5	99.354	125.403	154.450	186.514	7.9971853	8.0983055	8.1888118	8.2707169	5
6	99.763	125.863	154.968	187.074	7.9989713	8.0998944	8.1902426	8.2720119	6
7	0100.173	0126.323	0155.479	0187.634	8.0007527	8.1014804	8.1916710	8.2733111	7
8	100.584	126.784	155.990	188.195	8.0025325	8.1030635	8.1930971	8.2746082	8
9	100.996	127.246	156.502	188.757	8.0043076	8.1046437	8.1945208	8.2759035	9
10	101.409	127.709	157.015	189.320	8.0060790	8.1062211	8.1959421	8.2771967	10
11	101.823	128.173	157.529	189.884	8.0078468	8.1077955	8.1973611	8.2784880	11
12	102.238	128.638	158.044	190.449	8.0096110	8.1093671	8.1987778	8.2797774	12
13	0102.653	0129.103	0158.560	0191.014	8.0113716	8.1109358	8.2001921	8.2810649	13
14	103.069	129.569	159.076	191.580	8.0131287	8.1125017	8.2016042	8.2823504	14
15	103.486	130.036	159.593	192.147	8.0148822	8.1140647	8.2030139	8.2836341	15
16	103.904	130.544	160.111	192.715	8.0166321	8.1156249	8.2044213	8.2849158	16
17	104.323	130.973	160.630	193.284	8.0183785	8.1171823	8.2058264	8.2861956	17
18	104.743	131.443	161.150	193.853	8.0201213	8.1187369	8.2072293	8.2874735	18
19	0105.163	0131.915	0161.671	0194.423	8.0218607	8.1202887	8.2086298	8.2887495	19
20	105.584	132.384	162.192	194.994	8.0235965	8.1218377	8.2100281	8.2900236	20
21	106.006	132.856	162.714	195.566	8.0253289	8.1233840	8.2114241	8.2912958	21
22	106.429	133.329	163.237	196.139	8.0270578	8.1249274	8.2128179	8.2925661	22
23	106.853	133.803	163.761	196.713	8.0287833	8.1264681	8.2142094	8.2938346	23
24	107.277	134.278	164.286	197.288	8.0305053	8.1280061	8.2155987	8.2951012	24
25	0107.702	0134.754	0164.811	0197.863	8.0322239	8.1295413	8.2169857	8.2963660	25
26	108.128	135.230	165.337	198.439	8.0339391	8.1310738	8.2183705	8.2976289	26
27	108.555	135.707	165.864	199.016	8.0356508	8.1326036	8.2197531	8.2988899	27
28	108.983	136.185	166.392	199.594	8.0373592	8.1341307	8.2211334	8.3001491	28
29	109.412	136.664	166.921	200.174	8.0390643	8.1356551	8.2225116	8.3014064	29
30	109.841	137.144	167.451	200.753	8.0407659	8.1371768	8.2238875	8.3026619	30
31	0110.271	0137.624	0167.981	0201.333	8.0424642	8.1386958	8.2252613	8.3039156	31
32	110.702	138.105	168.512	201.914	8.0441592	8.1402121	8.2266329	8.3051675	32
33	111.134	138.587	169.044	202.496	8.0458509	8.1417258	8.2280023	8.3064175	33
34	111.567	139.070	169.577	203.079	8.0475393	8.1432368	8.2293695	8.3076657	34
35	112.001	139.554	170.111	203.663	8.0492243	8.1447452	8.2307345	8.3089122	35
36	112.436	140.039	170.646	204.247	8.0509061	8.1462510	8.2320974	8.3101588	36
37	0112.872	0140.525	0171.182	0204.832	8.0525847	8.1477541	8.2334581	8.3113996	37
38	113.308	141.011	171.718	205.418	8.0542599	8.1492546	8.2348167	8.3126406	38
39	113.745	141.499	172.255	206.005	8.0559319	8.1507525	8.2361732	8.3138798	39
40	114.183	141.986	172.793	206.593	8.0576007	8.1522478	8.2375275	8.3151172	40
41	114.622	142.475	173.332	207.182	8.0592663	8.1537405	8.2388797	8.3163529	41
42	115.062	142.965	173.872	207.772	8.0609283	8.1552307	8.2402297	8.3175868	42
43	0115.502	0143.456	0174.413	0208.362	8.0625878	8.1567182	8.2415737	8.3188189	43
44	115.943	143.947	174.954	208.953	8.0641438	8.1582032	8.2429235	8.3200493	44
45	116.385	144.439	175.496	209.545	8.0658966	8.1596857	8.2442673	8.3212779	45
46	116.828	144.932	176.039	210.138	8.0675463	8.1611656	8.2456089	8.3225047	46
47	117.272	145.426	176.583	210.732	8.0691928	8.1626438	8.2469485	8.3237298	47
48	117.717	145.921	177.128	211.326	8.0708362	8.1641178	8.2482860	8.3249532	48
49	0118.163	0146.417	0177.673	0211.921	8.0724764	8.1655902	8.2496214	8.3261748	49
50	118.608	146.913	178.219	212.517	8.0741136	8.1670600	8.2509547	8.3273947	50
51	119.055	147.410	178.766	213.114	8.0757476	8.1685273	8.2522860	8.3286128	51
52	119.50	147.908	179.314	213.712	8.0773786	8.1699921	8.2536151	8.3298292	52
53	119.952	148.407	179.863	214.311	8.0790065	8.1714545	8.2549424	8.3310439	53
54	120.402	148.907	180.413	214.910	8.0806313	8.1729144	8.2562675	8.3322569	54
55	0120.852	0149.407	0180.962	0215.510	8.0822531	8.1743717	8.2575906	8.3334682	55
56	121.303	149.908	181.514	216.111	8.0838718	8.1758267	8.2589117	8.3346778	56
57	121.755	150.410	182.066	216.713	8.0854976	8.1772792	8.2602307	8.3358857	57
58	122.208	150.913	182.619	217.316	8.0871002	8.1787292	8.2615477	8.3370918	58
59	122.662	151.417	183.173	217.920	8.0887099	8.1801768	8.2628626	8.3382963	59
60	123.117	151.922	183.728	218.524	8.0903166	8.1816220	8.2641757	8.3394991	60

Sines, and their Logarithms.

Deg. 81, 80, 79, 78

M	L. 81	L. 80	L. 79	L. 78	N. 81	N. 80	N. 79	N. 78	M
60	9.9349158	9.9261188	9.9171650	9.9080510	8608.269	8435.655	8263.518	8091.910	60
59	9.9347705	9.9259709	9.9170144	9.9078977	8605.388	8432.782	8260.653	8089.051	59
58	9.9346251	9.9258229	9.9168638	9.9077445	8602.508	8429.909	8257.789	8086.205	58
57	9.9344756	9.9256749	9.9167131	9.9075911	8599.527	8427.036	8254.925	8083.343	57
56	9.9343342	9.9255268	9.9165624	9.9074377	8596.747	8424.163	8252.061	8080.490	56
55	9.9341886	9.9253787	9.9164116	9.9072842	8593.867	8421.291	8249.197	8077.635	55
54	9.9340431	9.9252306	9.9162609	9.9071307	8590.987	8418.419	8246.333	8074.780	54
53	9.9338975	9.9250823	9.9161100	9.9069771	8588.107	8415.547	8243.469	8071.926	53
52	9.9337526	9.9249341	9.9159591	9.9068236	8585.228	8412.675	8240.606	8069.072	52
51	9.9336061	9.9247858	9.9158082	9.9066699	8582.348	8409.803	8237.742	8066.218	51
50	9.9334604	9.9246375	9.9156572	9.9065163	8579.469	8406.931	8234.879	8063.364	50
49	9.9333146	9.9244891	9.9155062	9.9063625	8576.590	8404.059	8232.016	8060.510	49
48	9.9331688	9.9243407	9.9153551	9.9062087	8573.711	8401.188	8229.153	8057.656	48
47	9.9330229	9.9241922	9.9152040	9.9060549	8570.832	8398.316	8226.290	8054.803	47
46	9.9328771	9.9240437	9.9150528	9.9059011	8567.953	8395.445	8223.427	8051.950	46
45	9.9327311	9.9238956	9.9149016	9.9057471	8565.074	8392.574	8220.565	8049.097	45
44	9.9325851	9.9237466	9.9147504	9.9055932	8562.195	8389.703	8217.702	8046.244	44
43	9.9324391	9.9235979	9.9145991	9.9054392	8559.316	8386.832	8214.840	8043.391	43
42	9.9322930	9.9234493	9.9144478	9.9052851	8556.438	8383.962	8211.978	8040.538	42
41	9.9321469	9.9233005	9.9142964	9.9051310	8553.559	8381.091	8209.116	8037.686	41
40	9.9320007	9.9231518	9.9141450	9.9049769	8550.681	8378.221	8206.254	8034.834	40
39	9.9318545	9.9230030	9.9139935	9.9048227	8547.803	8375.351	8203.392	8031.982	39
38	9.9317083	9.9228545	9.9138420	9.9046685	8544.925	8372.481	8200.531	8029.130	38
37	9.9315620	9.9227052	9.9136904	9.9045142	8542.047	8369.611	8197.669	8026.278	37
36	9.9314156	9.9225563	9.9135388	9.9043599	8539.169	8366.741	8194.808	8023.426	36
35	9.9312692	9.9224073	9.9133871	9.9042055	8536.292	8363.871	8191.946	8020.575	35
34	9.9311228	9.9222583	9.9132355	9.9040511	8533.414	8361.001	8189.086	8017.724	34
33	9.9309764	9.9221092	9.9130837	9.9038966	8530.537	8358.132	8186.226	8014.873	33
32	9.9308300	9.9219601	9.9129319	9.9037421	8527.660	8355.262	8183.366	8012.022	32
31	9.9306833	9.9218109	9.9127801	9.9035876	8524.783	8352.393	8180.505	8009.171	31
30	9.9305367	9.9216617	9.9126282	9.9034330	8521.906	8349.524	8177.645	8006.321	30
29	9.9303901	9.9215124	9.9124763	9.9032783	8519.029	8346.655	8174.785	8003.470	29
28	9.9302434	9.9213632	9.9123244	9.9031236	8516.152	8343.786	8171.925	8000.620	28
27	9.9300967	9.9212138	9.9121723	9.9029689	8513.276	8340.918	8169.065	7997.770	27
26	9.9299499	9.9210644	9.9120203	9.9028141	8510.399	8338.049	8166.205	7994.920	26
25	9.9298031	9.9209150	9.9118682	9.9026593	8507.522	8335.181	8163.346	7992.070	25
24	9.9296563	9.9207656	9.9117161	9.9025044	8504.647	8332.313	8160.487	7989.220	24
23	9.9295094	9.9206160	9.9115638	9.9023495	8501.771	8329.445	8157.628	7986.371	23
22	9.9293624	9.9204665	9.9114116	9.9021945	8498.895	8326.577	8154.769	7983.522	22
21	9.9292154	9.9203169	9.9112593	9.9020395	8496.019	8323.709	8151.910	7980.673	21
20	9.9290684	9.9201672	9.9111070	9.9018845	8493.143	8320.841	8149.051	7977.824	20
19	9.9289213	9.9200175	9.9109546	9.9017293	8490.267	8317.973	8146.192	7974.975	19
18	9.9287743	9.9198678	9.9108022	9.9015742	8487.392	8315.105	8143.334	7972.126	18
17	9.9286271	9.9197180	9.9106498	9.9014190	8484.516	8312.239	8140.476	7969.278	17
16	9.9284799	9.9195682	9.9104973	9.9012638	8481.641	8309.372	8137.618	7966.430	16
15	9.9283326	9.9194183	9.9103447	9.9011085	8478.766	8306.505	8134.760	7963.582	15
14	9.9281854	9.9192684	9.9101921	9.9009531	8475.891	8303.638	8131.902	7960.734	14
13	9.9280380	9.9191184	9.9100395	9.9007977	8473.016	8300.771	8129.044	7957.886	13
12	9.9278907	9.9189685	9.9098868	9.9006423	8470.141	8297.905	8126.187	7955.038	12
11	9.9277432	9.9188184	9.9097341	9.9004868	8467.266	8295.038	8123.330	7952.191	11
10	9.9275958	9.9186683	9.9095813	9.9003313	8464.392	8292.172	8120.473	7949.344	10
9	9.9274483	9.9185182	9.9094285	9.9001758	8461.518	8289.306	8117.616	7946.497	9
8	9.9273008	9.9183680	9.9092756	9.9000202	8458.644	8286.440	8114.759	7943.650	8
7	9.9271531	9.9182178	9.9091227	9.8998645	8455.770	8283.574	8111.902	7940.803	7
6	9.9270055	9.9180675	9.9089697	9.8997088	8452.896	8280.708	8109.046	7937.957	6
5	9.9268578	9.9179172	9.9088167	9.8995530	8450.022	8277.843	8106.190	7935.111	5
4	9.9267101	9.9177669	9.9086637	9.8993973	8447.148	8274.978	8103.334	7932.265	4
3	9.9265624	9.9176164	9.9085106	9.8992414	8444.275	8272.113	8100.478	7929.419	3
2	9.9264146	9.9174660	9.9083575	9.8990855	8441.401	8269.248	8097.622	7926.573	2
1	9.9262667	9.9173155	9.9082043	9.8989296	8438.528	8266.383	8094.766	7923.728	1
0	9.9261188	9.9171650	9.9080510	9.8987736	8435.655	8263.518	8091.910	7920.880	0

Deg 12,13,14,15.

A Table of Natural Versed

M	N. 12	N. 13	N. 14	N. 15	L. 12	L. 13	L. 14	L. 15	M
0	0218.524	0256.300	0297.043	0340.742	8.3394991	8.4087475	8.4728189	8.5324853	0
1	0219.129	0256.955	0297.747	0341.495	8.3407002	8.4098556	8.4738472	8.5333844	1
2	219.735	257.611	298.451	342.249	8.3418997	8.4109622	8.4748742	8.5343423	2
3	220.342	258.267	299.198	343.004	8.3430975	8.4120675	8.4759001	8.5352992	3
4	220.950	258.924	299.865	343.760	8.3442936	8.4131713	8.4769246	8.5362551	4
5	221.558	259.582	300.572	344.516	8.3454880	8.4142736	8.4779480	8.5372098	5
6	222.167	260.241	301.280	345.273	8.3466808	8.4153746	8.4789701	8.5381635	6
7	0222.777	0260.901	0301.989	0346.031	8.3478719	8.4164741	8.4799910	8.5391161	7
8	223.388	261.561	302.699	346.790	8.3490614	8.4175723	8.4810107	8.5400677	8
9	224.000	262.222	303.410	347.550	8.3502492	8.4186690	8.4820291	8.5410182	9
10	224.613	262.884	304.121	348.311	8.3514354	8.4197641	8.4830464	8.5419676	10
11	225.227	263.547	304.833	349.073	8.3526200	8.4208583	8.4840625	8.5429160	11
12	225.841	264.211	305.546	349.835	8.3538029	8.4219508	8.4850773	8.5438633	12
13	0226.456	0264.876	0308.260	0350.598	8.3549842	8.4230420	8.4860910	8.5448096	13
14	227.072	265.541	308.975	351.362	8.3561639	8.4241318	8.4871034	8.5457548	14
15	227.689	266.207	309.691	352.127	8.3573419	8.4252280	8.4881146	8.5466983	15
16	228.307	266.874	308.407	352.892	8.3585184	8.4263072	8.4891247	8.5476421	16
17	228.925	267.542	309.124	353.658	8.3596932	8.4273928	8.4901336	8.5485843	17
18	229.544	268.211	309.842	354.425	8.3608664	8.4284770	8.4911412	8.5495253	18
19	0230.164	0268.880	0310.561	0355.193	8.3620380	8.4295600	8.4921477	8.5504654	19
20	230.785	269.550	311.281	355.962	8.3632081	8.4306414	8.4931530	8.5514044	20
21	231.407	270.221	312.002	356.732	8.3643765	8.4317216	8.4941572	8.5523423	21
22	232.030	270.893	312.723	357.502	8.3655434	8.4328004	8.4951601	8.5532793	22
23	232.653	271.566	313.445	358.273	8.3667086	8.4338778	8.4961619	8.5542152	23
24	233.277	272.240	314.168	359.045	8.3678723	8.4349539	8.4971625	8.5551500	24
25	0233.902	0272.915	0314.892	0359.818	8.3690344	8.4360286	8.4981619	8.5560839	25
26	234.528	273.591	315.617	360.592	8.3701950	8.4371020	8.4991602	8.5570167	26
27	235.155	274.267	316.343	361.367	8.3713540	8.4381740	8.5001573	8.5579485	27
28	235.783	274.944	317.069	362.142	8.3725114	8.4392447	8.5011532	8.5588798	28
29	236.411	275.622	317.796	362.918	8.3736672	8.4403141	8.5021480	8.5598091	29
30	237.040	276.301	318.524	363.695	8.3748215	8.4413821	8.5031416	8.5607379	30
31	0237.670	0276.980	0319.253	0364.473	8.3759743	8.4424488	8.5041341	8.5616666	31
32	238.301	277.660	319.983	365.252	8.3771255	8.4435142	8.5051254	8.5625924	32
33	238.933	278.341	320.713	366.031	8.3782751	8.4445743	8.5061136	8.5635183	33
34	239.565	279.023	321.444	366.811	8.3794232	8.4456410	8.5071046	8.5644429	34
35	240.198	279.706	322.176	367.592	8.3805698	8.4467024	8.5080925	8.5653666	35
36	240.832	280.390	322.909	368.374	8.3817149	8.4477625	8.5090792	8.5662894	36
37	0241.467	0281.074	0323.643	0369.157	8.3828584	8.4488213	8.5100648	8.5672111	37
38	242.103	281.759	324.377	369.941	8.3840004	8.4498788	8.5110493	8.5681318	38
39	242.740	282.445	325.112	370.725	8.3851409	8.4509350	8.5120326	8.5690516	39
40	243.377	283.132	325.848	371.510	8.3862799	8.4519898	8.5130148	8.5699704	40
41	244.015	283.820	326.585	372.296	8.3874174	8.4530434	8.5139959	8.5708881	41
42	244.654	284.509	327.323	373.083	8.3885533	8.4540957	8.5149758	8.5718049	42
43	0245.291	0285.198	0328.062	0373.871	8.3896878	8.4551467	8.5159546	8.5727207	43
44	245.935	285.888	328.801	374.659	8.3908207	8.4561964	8.5169324	8.5736355	44
45	246.577	286.579	329.541	375.448	8.3919522	8.4572448	8.5179089	8.5745494	45
46	247.219	287.271	330.282	376.238	8.3930822	8.4582920	8.5188844	8.5754622	46
47	247.862	287.964	331.024	377.029	8.3942107	8.4593378	8.5198588	8.5763741	47
48	248.506	288.657	331.767	377.821	8.3953377	8.4603824	8.5208320	8.5772850	48
49	0249.151	0289.351	0332.510	0378.613	8.3964638	8.4614257	8.5218042	8.5781949	49
50	249.797	290.046	333.254	379.400	8.3975873	8.4624677	8.5227752	8.5791039	50
51	250.443	290.742	333.999	380.190	8.3987098	8.4635085	8.5237451	8.5800119	51
52	251.090	291.439	334.745	380.975	8.3998310	8.4645480	8.5247140	8.5809189	52
53	251.738	292.137	335.492	381.791	8.4009506	8.4655863	8.5256817	8.5818250	53
54	252.387	292.835	336.239	382.587	8.4020688	8.4666233	8.5266484	8.5827301	54
55	0253.037	0293.534	0336.987	0383.384	8.4031855	8.4676661	8.5276139	8.5836345	55
56	253.683	294.234	337.736	384.182	8.4043008	8.4686935	8.5285784	8.5845374	56
57	254.340	294.935	338.486	384.981	8.4054147	8.4697269	8.5295417	8.5854396	57
58	254.992	295.637	339.237	385.781	8.4065270	8.4707587	8.5305040	8.5863409	58
59	255.645	296.340	339.989	386.582	8.4076380	8.4717894	8.5314652	8.5872412	59
60	256.300	297.043	340.742	387.383	8.4087475	8.4728189	8.5324253	8.5881406	60

Sines, and their Logarithms.

Deg. 77, 76, 75, 74

M	L. 77	L. 76	L. 75	L. 74	N. 77	N. 76	N. 75	N. 74	M
60	9.8987735	9.8893291	9.8797140	9.8699243	7920.883	7750.489	7580.781	7411.810	60
59	9.8986176	9.8891703	9.8795522	9.8697596	7918.038	7747.655	7577.954	7409.000	59
58	9.8984615	9.8889114	9.8793905	9.8695949	7915.193	7744.821	7575.137	7406.191	58
57	9.8983054	9.8886524	9.8792286	9.8694301	7912.348	7741.987	7572.315	7403.382	57
56	9.8981492	9.8883935	9.8790666	9.8692653	7909.503	7739.153	7569.493	7400.573	56
55	9.8979930	9.8881344	9.8789048	9.8691004	7906.658	7736.320	7566.671	7397.764	55
54	9.8978367	9.8878754	9.8787429	9.8689355	7903.814	7733.487	7563.850	7394.955	54
53	9.8976804	9.8876162	9.8785809	9.8687705	7900.970	7730.654	7561.029	7392.147	53
52	9.8975241	9.8873571	9.8784188	9.8686056	7898.126	7727.821	7558.205	7389.335	52
51	9.8973676	9.8870979	9.8782567	9.8684405	7895.282	7724.988	7555.387	7386.523	51
50	9.8972112	9.8868386	9.8780946	9.8682754	7892.438	7722.156	7552.566	7383.712	50
49	9.8970547	9.8865792	9.8779323	9.8681102	7889.595	7719.324	7549.746	7380.901	49
48	9.8968982	9.8863199	9.8777701	9.8679450	7886.752	7716.492	7546.926	7378.109	48
47	9.8967416	9.8860608	9.8776078	9.8677797	7883.909	7713.660	7544.106	7375.302	47
46	9.8965850	9.8858016	9.8774454	9.8676145	7881.066	7710.828	7541.286	7372.495	46
45	9.8964283	9.8855424	9.8772830	9.8674491	7878.223	7707.995	7538.467	7369.688	45
44	9.8962716	9.8852831	9.8771206	9.8672837	7875.380	7705.165	7535.648	7366.882	44
43	9.8961148	9.8850239	9.8769581	9.8671182	7872.537	7702.334	7532.829	7364.076	43
42	9.8959580	9.8847647	9.8767957	9.8669527	7869.694	7699.503	7530.010	7361.270	42
41	9.8958011	9.8845054	9.8766329	9.8667871	7866.851	7696.672	7527.191	7358.464	41
40	9.8956442	9.8842462	9.8764703	9.8666216	7864.012	7693.841	7524.372	7355.658	40
39	9.8954872	9.8839869	9.8763076	9.8664559	7861.170	7691.011	7521.554	7352.853	39
38	9.8953302	9.8837276	9.8761449	9.8662902	7858.329	7688.181	7518.736	7350.048	38
37	9.8951731	9.8834683	9.8759821	9.8661244	7855.488	7685.351	7515.918	7347.243	37
36	9.8950161	9.8832090	9.8758192	9.8659586	7852.647	7682.521	7513.100	7344.438	36
35	9.8948589	9.8829497	9.8756563	9.8657927	7849.806	7679.691	7510.283	7341.634	35
34	9.8947017	9.8826904	9.8754934	9.8656269	7846.965	7676.862	7507.466	7338.830	34
33	9.8945445	9.8824311	9.8753304	9.8654609	7844.124	7674.033	7504.649	7336.026	33
32	9.8943872	9.8821718	9.8751674	9.8652949	7841.284	7671.204	7501.832	7333.223	32
31	9.8942298	9.8819125	9.8750043	9.8651288	7838.444	7668.375	7499.016	7330.420	31
30	9.8940725	9.8816532	9.8748412	9.8649627	7835.604	7665.546	7496.200	7327.617	30
29	9.8939150	9.8813939	9.8746780	9.8647965	7832.764	7662.718	7493.384	7324.814	29
28	9.8937576	9.8811346	9.8745147	9.8646303	7829.924	7659.890	7490.568	7322.011	28
27	9.8936000	9.8808753	9.8743514	9.8644641	7827.084	7657.062	7487.752	7319.208	27
26	9.8934425	9.8806160	9.8741881	9.8642978	7824.244	7654.234	7484.936	7316.405	26
25	9.8932848	9.8803567	9.8740247	9.8641314	7821.406	7651.406	7482.121	7313.603	25
24	9.8931272	9.8800974	9.8738613	9.8639650	7818.567	7648.579	7479.306	7310.801	24
23	9.8929695	9.8798381	9.8736978	9.8637985	7815.728	7645.752	7476.491	7307.999	23
22	9.8928117	9.8795788	9.8735343	9.8636320	7812.889	7642.925	7473.676	7305.198	22
21	9.8926539	9.8793195	9.8733707	9.8634655	7810.051	7640.098	7470.862	7302.397	21
20	9.8924961	9.8790602	9.8732071	9.8632989	7807.212	7637.271	7468.048	7299.596	20
19	9.8923381	9.8788009	9.8730434	9.8631322	7804.375	7634.445	7465.234	7296.795	19
18	9.8921802	9.8785416	9.8728797	9.8629655	7801.537	7631.618	7462.420	7293.995	18
17	9.8920222	9.8782823	9.8727159	9.8627987	7798.700	7628.793	7459.607	7291.195	17
16	9.8918642	9.8780230	9.8725521	9.8626319	7795.862	7625.967	7456.794	7288.395	16
15	9.8917061	9.8777637	9.8723882	9.8624650	7793.024	7623.141	7453.981	7285.595	15
14	9.8915480	9.8775044	9.8722243	9.8622981	7790.186	7620.316	7451.168	7282.795	14
13	9.8913900	9.8772451	9.8720603	9.8621314	7787.348	7617.491	7448.355	7279.997	13
12	9.8912316	9.8769858	9.8718963	9.8619642	7784.511	7614.666	7445.542	7277.198	12
11	9.8910733	9.8767265	9.8717322	9.8617971	7781.673	7611.841	7442.730	7274.399	11
10	9.8909150	9.8764672	9.8715682	9.8616300	7778.835	7609.017	7439.918	7271.600	10
9	9.8907566	9.8762079	9.8714040	9.8614628	7776.000	7606.192	7437.106	7268.802	9
8	9.8905982	9.8759486	9.8712398	9.8612956	7773.162	7603.368	7434.294	7266.004	8
7	9.8904397	9.8756893	9.8710755	9.8611283	7770.324	7600.544	7431.483	7263.206	7
6	9.8902812	9.8754300	9.8709112	9.8609610	7767.486	7597.720	7428.672	7260.408	6
5	9.8901226	9.8751707	9.8707468	9.8607936	7764.648	7594.895	7425.861	7257.611	5
4	9.8899640	9.8749114	9.8705824	9.8606262	7761.810	7592.073	7423.050	7254.814	4
3	9.8898054	9.8746521	9.8704179	9.8604587	7758.972	7589.250	7420.240	7252.017	3
2	9.8896467	9.8743928	9.8702534	9.8602912	7756.135	7586.427	7417.430	7249.220	2
1	9.8894879	9.8741335	9.8700888	9.8601235	7753.297	7583.604	7414.620	7246.423	1
0	9.8893291	9.8738742	9.8699243	9.8599560	7750.459	7580.781	7411.810	7243.627	0

Dec. 16, 17, 18, 19.

A Table of Natural Verfed

M	N. 16	N. 17	N. 18	N. 19	L. 16	L. 17	L. 18	L. 19	M
0	387.383	0436.952	0489.435	0544.814	8.5881406	8.6404342	8.6896949	8.7362485	0
1	388.185	0437.803	0490.334	0545.762	8.5890390	8.6412790	8.6904921	8.7370030	1
2	388.988	438.655	491.234	546.710	8.5899365	8.6421231	8.6912886	8.7377570	2
3	389.792	439.508	492.135	547.659	8.5908330	8.6429663	8.6920844	8.7385102	3
4	390.597	440.361	493.037	548.609	8.5917286	8.6438087	8.6928794	8.7392628	4
5	391.402	441.215	493.939	549.559	8.5926232	8.6446502	8.6936736	8.7400147	5
6	392.208	442.070	494.843	550.511	8.5935170	8.6454909	8.6944672	8.7407655	6
7	393.015	0442.926	0495.747	0551.463	8.5944097	8.6463308	8.6952599	8.7415165	7
8	393.823	443.782	496.652	552.416	8.5953016	8.6471698	8.6960520	8.7422664	8
9	394.632	444.639	497.557	553.370	8.5961925	8.6479980	8.6968432	8.7430156	9
10	395.441	445.498	498.464	554.325	8.5970824	8.6488454	8.6976338	8.7437642	10
11	396.251	446.357	499.371	555.280	8.5979715	8.6496820	8.6984236	8.7445121	11
12	397.062	447.216	500.279	556.236	8.5988596	8.6505177	8.6992127	8.7452593	12
13	397.874	0448.077	0501.188	0557.193	8.5997468	8.6513526	8.7000010	8.7460059	13
14	398.687	448.938	502.098	558.151	8.6006330	8.6521867	8.7007886	8.7467518	14
15	399.501	449.801	503.009	559.110	8.6015184	8.6530200	8.7015755	8.7474971	15
16	400.315	450.664	503.920	560.069	8.6024028	8.6538524	8.7023617	8.7482417	16
17	401.130	451.527	504.832	561.029	8.6032863	8.6546841	8.7031471	8.7489857	17
18	401.946	452.392	505.745	561.990	8.6041689	8.6555149	8.7039318	8.7497290	18
19	402.763	0453.257	0506.659	0562.952	8.6050505	8.6563449	8.7047158	8.7504716	19
20	403.581	454.124	507.574	563.915	8.6059313	8.6571741	8.7054990	8.7512136	20
21	404.400	454.991	508.489	564.878	8.6068112	8.6580025	8.7062815	8.7519549	21
22	405.219	455.859	509.405	565.843	8.6076901	8.6588301	8.7070633	8.7526956	22
23	406.039	456.727	510.322	566.808	8.6085681	8.6596569	8.7078444	8.7534357	23
24	406.860	457.597	511.240	567.773	8.6094453	8.6604829	8.7086247	8.7541751	24
25	407.682	0458.467	0512.158	0568.740	8.6103215	8.6613081	8.7094044	8.7549138	25
26	408.505	459.338	513.078	569.707	8.6111968	8.6621324	8.7101833	8.7556519	26
27	409.328	460.210	513.998	570.676	8.6120712	8.6629560	8.7109615	8.7563894	27
28	410.152	461.083	514.919	571.645	8.6129448	8.6637788	8.7117399	8.7571262	28
29	410.977	461.956	515.841	572.614	8.6138174	8.6646008	8.7125157	8.7578623	29
30	411.803	462.830	516.763	573.585	8.6146891	8.6654220	8.7132918	8.7585975	30
31	412.629	0463.706	0517.687	0574.556	8.6155600	8.6662424	8.7140671	8.7593327	31
32	413.456	464.582	518.611	575.529	8.6164299	8.6670620	8.7148418	8.7600670	32
33	414.284	465.458	519.533	576.502	8.6172990	8.6678808	8.7156157	8.7608006	33
34	415.113	466.336	520.461	577.475	8.6181672	8.6686988	8.7163889	8.7615336	34
35	415.947	467.214	521.388	578.450	8.6190345	8.6695160	8.7171614	8.7622659	35
36	416.774	468.093	522.316	579.425	8.6199009	8.6703324	8.7179332	8.7629976	36
37	417.605	0468.973	0523.244	580.402	8.6207664	8.6711481	8.7187044	8.7637286	37
38	418.437	469.854	524.173	581.379	8.6216331	8.6719630	8.7194748	8.7644591	38
39	419.270	470.736	525.103	582.356	8.6224948	8.6727771	8.7202445	8.7651889	39
40	420.104	471.618	526.034	583.335	8.6233577	8.6735904	8.7210135	8.7659180	40
41	420.939	472.501	526.965	584.314	8.6242197	8.6744029	8.7217818	8.7666466	41
42	421.775	473.385	527.897	585.295	8.6250809	8.6752147	8.7225494	8.7673745	42
43	422.611	0474.270	0528.830	586.276	8.6259412	8.6760256	8.7233163	8.7681018	43
44	423.448	475.156	529.764	587.257	8.6268006	8.6768358	8.7240825	8.7688284	44
45	424.286	476.042	530.699	588.240	8.6276591	8.6776453	8.7248480	8.7695544	45
46	425.125	476.925	531.634	589.223	8.6285168	8.6784539	8.7256129	8.7702798	46
47	425.964	477.817	532.570	590.207	8.6293736	8.6792618	8.7263770	8.7710046	47
48	426.804	478.706	533.507	591.192	8.6302295	8.6800689	8.7271404	8.7717288	48
49	427.645	0479.595	0534.445	592.178	8.6310846	8.6808753	8.7279032	8.7724523	49
50	428.487	480.486	535.384	593.164	8.6319388	8.6816809	8.7286653	8.7731752	50
51	429.330	481.377	536.323	594.152	8.6327922	8.6824857	8.7294267	8.7738975	51
52	430.174	482.269	537.264	595.140	8.6336447	8.6832897	8.7301874	8.7746192	52
53	431.018	483.162	538.205	596.129	8.6344964	8.6840930	8.7309474	8.7753402	53
54	431.863	484.055	539.146	597.119	8.6353472	8.6848956	8.7317067	8.7760607	54
55	432.709	0484.950	0540.089	598.109	8.6361971	8.6856973	8.7324654	8.7767805	55
56	433.555	485.846	541.032	599.101	8.6370462	8.6864984	8.7332233	8.7774997	56
57	434.404	486.742	541.977	600.093	8.6378945	8.6872986	8.7339806	8.7782183	57
58	435.253	487.639	542.922	601.086	8.6387419	8.6880981	8.7347373	8.7789363	58
59	436.102	488.536	543.868	602.079	8.6395884	8.6888969	8.7354932	8.7796537	59
60	436.952	489.435	544.814	603.074	8.6404342	8.6896949	8.7362485	8.7803705	60

Sines, and their Logarithms Deg. 73, 72, 71, 70

M	L. 73	L. 72	L. 71	L. 70	N. 73	N. 72	N. 71	N. 70	M
60	9.8595560	9.8498052	9.8394674	9.8289381	7243.627	7076.283	6909.830	6744.318	60
59	9.8597883	9.8496344	9.8392934	9.8287609	7240.831	7073.501	6907.064	6741.568	59
58	9.8599620	9.8494636	9.8391195	9.8285837	7238.035	7070.720	6904.298	6738.818	58
57	9.8601259	9.8492928	9.8389455	9.8284065	7235.239	7067.935	6901.532	6736.069	57
56	9.8602851	9.8491219	9.8387714	9.8282292	7232.444	7065.158	6898.766	6733.319	56
55	9.8604391	9.8489509	9.8385973	9.8280518	7229.649	7062.377	6896.001	6730.570	55
54	9.8605922	9.8487799	9.8384233	9.8278744	7226.854	7059.597	6893.236	6727.821	54
53	9.8607452	9.8486088	9.8382489	9.8276969	7224.059	7056.817	6890.471	6725.073	53
52	9.8608983	9.8484377	9.8380746	9.8275194	7221.265	7054.037	6887.706	6722.325	52
51	9.8610513	9.8482665	9.8379003	9.8273418	7218.471	7051.257	6884.942	6719.577	51
50	9.8612044	9.8480953	9.8377259	9.8271642	7215.677	7048.477	6882.178	6716.829	50
49	9.8613574	9.8479240	9.8375514	9.8269865	7212.883	7045.698	6879.414	6714.082	49
48	9.8615105	9.8477527	9.8373770	9.8268088	7210.089	7042.919	6876.651	6711.335	48
47	9.8616635	9.8475813	9.8372024	9.8266310	7207.296	7040.140	6873.888	6708.588	47
46	9.8618166	9.8474099	9.8370278	9.8264532	7204.503	7037.362	6871.125	6705.841	46
45	9.8619696	9.8472384	9.8368531	9.8262753	7201.710	7034.584	6868.362	6703.094	45
44	9.8621227	9.8470669	9.8366785	9.8260973	7198.918	7031.806	6865.600	6700.348	44
43	9.8622757	9.8468953	9.8365037	9.8259193	7196.126	7029.028	6862.838	6697.602	43
42	9.8624288	9.8467237	9.8363289	9.8257412	7193.334	7026.250	6860.076	6694.856	42
41	9.8625818	9.8465520	9.8361540	9.8255631	7190.542	7023.473	6857.314	6692.111	41
40	9.8627349	9.8463802	9.8359791	9.8253849	7187.750	7020.695	6854.552	6689.366	40
39	9.8628879	9.8462084	9.8358041	9.8252067	7184.959	7017.919	6851.791	6686.621	39
38	9.8630410	9.8460366	9.8356291	9.8250284	7182.168	7015.143	6849.030	6683.877	38
37	9.8631940	9.8458647	9.8354540	9.8248501	7179.377	7012.367	6846.269	6681.133	37
36	9.8633471	9.8456927	9.8352789	9.8246717	7176.586	7009.591	6843.509	6678.389	36
35	9.8635001	9.8455207	9.8351037	9.8244932	7173.796	7006.815	6840.749	6675.645	35
34	9.8636532	9.8453487	9.8349285	9.8243147	7171.005	7004.040	6837.989	6672.902	34
33	9.8638062	9.8451765	9.8347531	9.8241361	7168.216	7001.265	6835.230	6670.159	33
32	9.8639593	9.8450044	9.8345778	9.8239576	7165.426	6998.490	6832.471	6667.415	32
31	9.8641123	9.8448322	9.8344024	9.8237785	7162.636	6995.716	6829.712	6664.673	31
30	9.8642654	9.8446600	9.8342269	9.8236002	7159.847	6992.942	6826.953	6661.931	30
29	9.8644184	9.8444876	9.8340514	9.8234213	7157.058	6990.168	6824.195	6659.189	29
28	9.8645715	9.8443152	9.8338759	9.8232425	7154.269	6987.394	6821.437	6656.447	28
27	9.8647245	9.8441428	9.8337002	9.8230636	7151.480	6984.620	6818.679	6653.706	27
26	9.8648776	9.8439703	9.8335246	9.8228847	7148.692	6981.847	6815.921	6650.965	26
25	9.8650306	9.8437978	9.8333488	9.8227057	7145.904	6979.074	6813.163	6648.224	25
24	9.8651837	9.8436252	9.8331731	9.8225266	7143.116	6976.301	6810.406	6645.484	24
23	9.8653367	9.8434526	9.8329972	9.8223475	7140.328	6973.528	6807.649	6642.744	23
22	9.8654898	9.8432799	9.8328213	9.8221684	7137.541	6970.756	6804.892	6640.004	22
21	9.8656428	9.8431071	9.8326454	9.8219891	7134.754	6967.984	6802.136	6637.264	21
20	9.8657959	9.8429344	9.8324694	9.8218099	7131.967	6965.212	6799.380	6634.525	20
19	9.8659489	9.8427615	9.8322933	9.8216305	7129.181	6962.441	6796.625	6631.786	19
18	9.8661020	9.8425886	9.8321172	9.8214511	7126.395	6959.670	6793.870	6629.047	18
17	9.8662550	9.8424156	9.8319411	9.8212717	7123.609	6956.899	6791.115	6626.309	17
16	9.8664081	9.8422427	9.8317649	9.8210922	7120.823	6954.128	6788.360	6623.571	16
15	9.8665611	9.8420696	9.8315886	9.8209126	7118.037	6951.357	6785.605	6620.833	15
14	9.8667142	9.8418965	9.8314123	9.8207330	7115.252	6948.587	6782.850	6618.095	14
13	9.8668672	9.8417233	9.8312359	9.8205533	7112.467	6945.817	6780.095	6615.358	13
12	9.8670203	9.8415501	9.8310595	9.8203736	7109.682	6943.047	6777.340	6612.621	12
11	9.8671733	9.8413768	9.8308830	9.8201938	7106.897	6940.277	6774.588	6609.884	11
10	9.8673264	9.8412035	9.8307064	9.8200140	7104.112	6937.508	6771.833	6607.148	10
9	9.8674794	9.8410301	9.8305298	9.8198341	7101.328	6934.739	6769.082	6604.412	9
8	9.8676325	9.8408567	9.8303532	9.8196542	7098.544	6931.970	6766.325	6601.676	8
7	9.8677855	9.8406832	9.8301765	9.8194741	7095.760	6929.202	6763.577	6598.940	7
6	9.8679386	9.8405097	9.8299997	9.8192941	7092.977	6926.434	6760.825	6596.205	6
5	9.8680916	9.8403361	9.8298229	9.8191140	7090.194	6923.666	6758.073	6593.470	5
4	9.8682447	9.8401625	9.8296461	9.8189338	7087.411	6920.898	6755.321	6590.735	4
3	9.8683977	9.8400000	9.8294691	9.8187536	7084.629	6918.131	6752.570	6588.001	3
2	9.8685508	9.8398265	9.8292922	9.8185733	7081.847	6915.364	6749.819	6585.267	2
1	9.8687038	9.8396530	9.8291151	9.8183930	7079.065	6912.597	6747.068	6582.533	1
0	9.8688569	9.8394794	9.8289381	9.8182126	7076.283	6909.830	6744.318	6579.799	0

Deg. 20, 21, 22, 23.

A Table of Natural Varies

N. 20	N. 21	N. 22	N. 23	L. 20	L. 21	L. 22	L. 23	M
0603.074	0664.195	0728.161	0794.951	8.780305	8.8222951	8.8622277	8.9003405	0
1 0604.069	0665.235	0729.251	0796.006	8.7810863	8.8229771	8.8628771	8.9009511	1
2 0605.065	0666.282	0730.342	0797.226	8.7818022	8.8236582	8.8635271	8.9015816	2
3 0606.062	0667.327	0731.434	0798.365	8.7825168	8.8243382	8.8641745	8.9022011	3
4 0607.050	0668.372	0732.526	0799.504	8.7832314	8.8250182	8.8648233	8.9028207	4
5 0608.058	0669.418	0733.619	0800.644	8.7839499	8.8256970	8.8654707	8.9034393	5
6 0609.057	0670.461	0734.713	0801.785	8.7846593	8.8263755	8.8661181	8.9040579	6
7 0610.058	0671.512	0735.808	0802.927	8.7853705	8.8270537	8.8667645	8.9046757	7
8 0611.059	0672.561	0736.904	0804.069	8.7860827	8.8277314	8.8674109	8.9052934	8
9 0612.060	0673.610	0738.000	0805.212	8.7867937	8.8284081	8.8680563	8.9059102	9
10 0613.062	0674.660	0739.097	0806.356	8.7875047	8.8290848	8.8687018	8.9065270	10
11 0614.066	0675.710	0740.195	0807.501	8.7882146	8.8297604	8.8693462	8.9071429	11
12 0615.070	0676.762	0741.294	0808.647	8.7889244	8.8304360	8.8699906	8.9077588	12
13 0616.075	0677.814	0742.394	0809.793	8.7896330	8.8311105	8.8706340	8.9083738	13
14 0617.080	0678.867	0743.494	0810.940	8.7903416	8.8317850	8.8712774	8.9089887	14
15 0618.087	0679.921	0744.595	0812.088	8.7910491	8.8324584	8.8719198	8.9096028	15
16 0619.094	0680.976	0745.697	0813.237	8.7917565	8.8331318	8.8725623	8.9102169	16
17 0620.102	0682.031	0746.800	0814.386	8.7924627	8.8338041	8.8732037	8.9108301	17
18 0621.111	0683.088	0747.903	0815.536	8.7931690	8.8344765	8.8738451	8.9114432	18
19 0622.120	0684.145	0749.007	0816.687	8.7938740	8.8351477	8.8744856	8.9120555	19
20 0623.131	0685.203	0750.112	0817.839	8.7945791	8.8358190	8.8751201	8.9126678	20
21 0624.142	0686.261	0751.218	0818.991	8.7952830	8.8364892	8.8757551	8.9132792	21
22 0625.154	0687.321	0752.324	0820.145	8.7959869	8.8371594	8.8763901	8.9138905	22
23 0626.167	0688.381	0753.431	0821.295	8.7966866	8.8378285	8.8770243	8.9145012	23
24 0627.180	0689.442	0754.535	0822.454	8.7973923	8.8384976	8.8776582	8.9151115	24
25 0628.194	0690.504	0755.648	0823.609	8.7980938	8.8391657	8.8782919	8.9157211	25
26 0629.210	0691.566	0756.758	0824.765	8.7987953	8.8398337	8.8789251	8.9163306	26
27 0630.226	0692.626	0757.869	0825.923	8.7994957	8.8405007	8.8795573	8.9169393	27
28 0631.242	0693.691	0758.980	0827.081	8.8001961	8.8411677	8.8801893	8.9175480	28
29 0632.260	0694.755	0760.092	0828.240	8.8008953	8.8418337	8.8808259	8.9181555	29
30 0633.278	0695.824	0761.205	0829.399	8.8015945	8.8424996	8.8814514	8.9187636	30
31 0634.297	0696.891	0762.318	0830.560	8.8022925	8.8431645	8.8820761	8.9193706	31
32 0635.317	0697.955	0763.432	0831.721	8.8029906	8.8438294	8.8827007	8.9199775	32
33 0636.338	0699.025	0764.547	0832.882	8.8036874	8.8444932	8.8833044	8.9205835	33
34 0637.359	0700.095	0765.663	0834.045	8.8043843	8.8451570	8.8839080	8.9211895	34
35 0638.382	0701.165	0766.780	0835.209	8.8050801	8.8458198	8.8845070	8.9217947	35
36 0639.405	0702.235	0767.897	0836.373	8.8057758	8.8464826	8.8851034	8.9223999	36
37 0640.429	0703.306	0769.015	0837.538	8.8064704	8.8471443	8.8856935	8.9230041	37
38 0641.453	0704.378	0770.134	0838.703	8.8071649	8.8478060	8.8862836	8.9236084	38
39 0642.475	0705.451	0771.254	0839.870	8.8078584	8.8484667	8.8868737	8.9242118	39
40 0643.505	0706.525	0772.375	0841.037	8.8085518	8.8491274	8.8874638	8.9248152	40
41 0644.532	0707.599	0773.496	0842.205	8.8092441	8.8497871	8.8880539	8.9254177	41
42 0645.560	0708.674	0774.618	0843.374	8.8099364	8.8504467	8.8886440	8.9260202	42
43 0646.588	0709.750	0775.741	0844.544	8.8106276	8.8511053	8.8892341	8.9266219	43
44 0647.618	0710.827	0776.865	0845.714	8.8113187	8.8517639	8.8898242	8.9272235	44
45 0648.648	0711.904	0777.990	0846.885	8.8120087	8.8524215	8.8904143	8.9278243	45
46 0649.679	0712.983	0779.116	0848.057	8.8126988	8.8530790	8.8910044	8.9284251	46
47 0650.711	0714.062	0780.242	0849.230	8.8133876	8.8537356	8.8915945	8.9290250	47
48 0651.743	0715.142	0781.369	0850.403	8.8140765	8.8543921	8.8921846	8.9296249	48
49 0652.777	0716.223	0782.496	0851.578	8.8147643	8.8550476	8.8927747	8.9302240	49
50 0653.811	0717.304	0783.624	0852.753	8.8154521	8.8557032	8.8933648	8.9308231	50
51 0654.846	0718.386	0784.753	0853.928	8.8161387	8.8563576	8.8939549	8.9314212	51
52 0655.881	0719.469	0785.883	0855.105	8.8168253	8.8570121	8.8945450	8.9320193	52
53 0656.918	0720.553	0787.014	0856.282	8.8175108	8.8576656	8.8951351	8.9326168	53
54 0657.955	0721.637	0788.145	0857.460	8.8181954	8.8583191	8.8957252	8.9332141	54
55 0658.993	0722.722	0789.277	0858.639	8.8188803	8.8589715	8.8963153	8.9338106	55
56 0660.032	0723.805	0790.410	0859.819	8.8195652	8.8596240	8.8969054	8.9344070	56
57 0661.072	0724.886	0791.544	0860.999	8.8202484	8.8602754	8.8974955	8.9350025	57
58 0662.112	0725.968	0792.679	0862.181	8.8209317	8.8609268	8.8980856	8.9355983	58
59 0663.154	0727.051	0793.815	0863.363	8.8216139	8.8615773	8.8986757	8.9361931	59
60 0664.195	0728.136	0794.951	0864.545	8.8222961	8.8622277	8.8992658	8.9367878	60

Sines, and their Logarithms.

Deg. 69, 68, 67, 66.

M	L. 69	L. 68	L. 67	L. 66	N. 69	N. 68	N. 67	N. 66	M
60	9.8182126	9.8072860	9.7951533	9.7848090	6579.799	6416.321	6253.934	6092.689	60
59	9.8180321	9.8071022	9.7950659	9.7846181	6577.066	6413.605	6251.237	6090.011	59
58	9.817816	9.8069183	9.7949786	9.7844271	6574.333	6410.890	6248.540	6087.334	58
57	9.8176711	9.8067343	9.7948911	9.7842361	6571.600	6408.175	6245.844	6084.657	57
56	9.8174905	9.8065503	9.7948037	9.7840450	6568.867	6405.460	6243.148	6081.980	56
55	9.8173098	9.8063662	9.7947161	9.7838539	6566.135	6402.746	6240.452	6079.304	55
54	9.8171291	9.8061821	9.7946285	9.7836627	6563.403	6400.032	6237.757	6076.628	54
53	9.8169483	9.8059979	9.7945408	9.7834714	6560.671	6397.318	6235.062	6073.952	53
52	9.8167675	9.8058137	9.7944531	9.7832801	6557.940	6394.605	6232.367	6071.277	52
51	9.8165865	9.8056294	9.7943652	9.7830887	6555.205	6391.892	6229.673	6068.602	51
50	9.8164055	9.8054451	9.7942774	9.7828973	6552.470	6389.179	6226.979	6065.928	50
49	9.8162246	9.8052606	9.7941895	9.7827058	6549.747	6386.467	6224.285	6063.254	49
48	9.8160435	9.8050762	9.7941015	9.7825143	6547.017	6383.755	6221.592	6060.580	48
47	9.8158624	9.8048916	9.7939135	9.7823226	6544.287	6381.043	6218.899	6057.907	47
46	9.8156812	9.8047070	9.7937254	9.7821309	6541.558	6378.331	6216.206	6055.234	46
45	9.8155000	9.8045224	9.7935372	9.7819392	6538.829	6375.620	6213.514	6052.561	45
44	9.8153187	9.8043377	9.7933491	9.7817474	6536.100	6372.909	6210.822	6049.888	44
43	9.8151373	9.8041529	9.7931608	9.7815555	6533.371	6370.196	6208.130	6047.216	43
42	9.8149560	9.8039681	9.7929722	9.7813636	6530.643	6367.488	6205.438	6044.544	42
41	9.8147745	9.8037832	9.7927841	9.7811716	6527.915	6364.778	6202.747	6041.872	41
40	9.8145930	9.8035983	9.7925956	9.7809795	6525.187	6362.068	6200.056	6039.201	40
39	9.8144114	9.8034133	9.7924071	9.7807874	6522.460	6359.358	6197.365	6036.530	39
38	9.8142295	9.8032283	9.7922187	9.7805953	6519.733	6356.649	6194.675	6033.860	38
37	9.8140481	9.8030431	9.7920299	9.7804030	6517.006	6353.940	6191.985	6031.190	37
36	9.8138664	9.8028580	9.7918413	9.7802108	6514.279	6351.232	6189.296	6028.520	36
35	9.8136846	9.8026727	9.7916525	9.7800184	6511.553	6348.524	6186.607	6025.851	35
34	9.8135027	9.8024875	9.7914637	9.7798260	6509.027	6345.815	6183.918	6023.182	34
33	9.8133208	9.8023021	9.7912748	9.7796335	6506.501	6343.108	6181.229	6020.513	33
32	9.8131389	9.8021167	9.7910859	9.7794410	6503.976	6340.401	6178.541	6017.844	32
31	9.8129565	9.8019313	9.7908969	9.7792484	6501.451	6337.698	6175.853	6015.173	31
30	9.8127748	9.8017458	9.7907079	9.7790558	6497.925	6334.993	6173.166	6012.503	30
29	9.8125926	9.8015602	9.7905188	9.7788630	6495.201	6332.282	6170.475	6009.841	29
28	9.8124104	9.8013746	9.7903297	9.7786703	6492.477	6329.576	6167.792	6007.172	28
27	9.8122282	9.8011889	9.7901404	9.7784774	6489.753	6326.870	6165.105	6004.507	27
26	9.8120459	9.8010031	9.7899512	9.7782845	6487.029	6324.165	6162.419	6001.841	26
25	9.8118635	9.8008173	9.7897618	9.7780915	6484.306	6321.459	6159.733	5999.175	25
24	9.8116811	9.8006315	9.7895725	9.7778985	6481.583	6318.754	6157.047	5996.509	24
23	9.8114986	9.8004455	9.7893830	9.7777054	6478.860	6316.049	6154.362	5993.844	23
22	9.8113161	9.8002596	9.7891935	9.7775123	6476.138	6313.345	6151.677	5991.179	22
21	9.8111335	9.8000735	9.7889039	9.7773191	6473.416	6310.641	6148.992	5988.514	21
20	9.8109509	9.7998875	9.7887143	9.7771258	6470.694	6307.938	6146.308	5985.850	20
19	9.8107682	9.7997013	9.7885245	9.7769325	6467.973	6305.235	6143.624	5983.186	19
18	9.8105851	9.7995151	9.7883348	9.7767391	6465.252	6302.532	6140.940	5980.522	18
17	9.8104026	9.7993288	9.7881450	9.7765456	6462.531	6299.830	6138.257	5977.859	17
16	9.8102197	9.7991425	9.7879551	9.7763521	6459.810	6297.128	6135.574	5975.196	16
15	9.8100368	9.7989561	9.7877652	9.7761585	6457.090	6294.426	6132.891	5972.533	15
14	9.8098538	9.7987697	9.7875752	9.7759649	6454.370	6291.724	6130.209	5969.870	14
13	9.8096708	9.7985831	9.7873851	9.7757712	6451.650	6289.023	6127.527	5967.208	13
12	9.8094877	9.7983960	9.7871950	9.7755775	6448.930	6286.322	6124.845	5964.546	12
11	9.8093045	9.7982099	9.7870048	9.7753836	6446.211	6283.621	6122.163	5961.885	11
10	9.8091213	9.7980233	9.7868146	9.7751898	6443.492	6280.920	6119.482	5959.224	10
9	9.8089380	9.7978365	9.7866243	9.7749958	6440.773	6278.220	6116.801	5956.563	9
8	9.8087547	9.7976498	9.7864340	9.7748018	6438.055	6275.520	6114.120	5953.900	8
7	9.8085713	9.7974629	9.7862435	9.7746077	6435.337	6272.820	6111.440	5951.243	7
6	9.8083879	9.7972760	9.7860531	9.7744136	6432.620	6270.122	6108.760	5948.588	6
5	9.8082044	9.7970890	9.7858625	9.7742194	6429.903	6267.423	6106.081	5945.935	5
4	9.8080208	9.7969020	9.7856720	9.7740252	6427.186	6264.725	6103.402	5943.286	4
3	9.8078372	9.7967149	9.7854813	9.7738308	6424.469	6262.027	6100.723	5940.638	3
2	9.8076536	9.7965278	9.7852906	9.7736365	6421.753	6259.329	6098.045	5937.995	2
1	9.8074698	9.7963405	9.7851000	9.7734420	6419.037	6256.631	6095.367	5935.352	1
0	9.8072860	9.7961534	9.7849090	9.7732475	6416.321	6253.934	6092.689	5932.711	0

Deg. 24, 25, 26, 27, A Table of Natural Versed

N. 24	N. 25	N. 26	N. 27.	L. 24	L. 25	L. 26	L. 27	M
0 0864.545	0936.922	1012.060	1089.933	8.9367878	8.9717035	9.0052061	9.0374005	0
1 0865.725	0938.112	1013.335	1091.256	8.9373817	8.9722729	9.0057529	9.0374264	1
2 865.913	939.382	1014.612	1092.577	8.9379756	8.9728324	9.0063997	9.0384521	2
3 868.095	940.614	1015.888	1093.900	8.9385687	8.9734111	9.0068458	9.0389774	3
4 869.284	941.846	1017.166	1095.223	8.9391618	8.9739797	9.0073920	9.0395026	4
5 870.471	943.078	1018.445	1096.547	8.9397540	8.9745476	9.0079344	9.0400272	5
6 871.658	944.312	1019.724	1097.872	8.9403462	8.9751155	9.0084827	9.0405517	6
7 872.846	945.546	1021.004	1099.197	8.9409376	8.9756826	9.0090274	9.0410755	7
8 874.035	946.781	1022.285	1100.524	8.9415290	8.9762497	9.0095721	9.0415944	8
9 875.225	948.017	1023.567	1101.851	8.9421195	8.9768161	9.0101160	9.0421126	9
10 876.416	949.254	1024.849	1103.178	8.9427101	8.9773824	9.0106600	9.0426458	10
11 877.607	950.491	1026.132	1104.507	8.9432998	8.9779480	9.0112032	9.0431831	11
12 878.795	951.729	1027.416	1105.836	8.9438895	8.9785135	9.0117465	9.0437208	12
13 879.992	952.968	1028.701	1107.166	8.9444783	8.9790783	9.0122899	9.0442577	13
14 881.185	954.208	1029.986	1108.497	8.9450672	8.9796431	9.0128315	9.0447945	14
15 882.380	955.449	1031.273	1109.829	8.9456552	8.9802071	9.0133733	9.0453315	15
16 883.575	956.690	1032.560	1111.161	8.9462433	8.9807711	9.0139154	9.0458686	16
17 884.771	957.932	1033.847	1112.494	8.9468305	8.9813344	9.0144562	9.0464057	17
18 885.967	959.175	1035.136	1113.828	8.9474177	8.9818976	9.0149973	9.0469428	18
19 887.165	960.418	1036.425	1115.162	8.9480040	8.9824601	9.0155377	9.0474799	19
20 888.363	961.662	1037.715	1116.497	8.9485904	8.9830226	9.0160781	9.0480170	20
21 889.562	962.907	1039.006	1117.834	8.9491759	8.9835843	9.0166177	9.0485541	21
22 890.762	964.153	1040.297	1119.170	8.9497615	8.9841460	9.0171574	9.0490912	22
23 891.962	965.400	1041.588	1120.508	8.9503462	8.9847070	9.0176964	9.0496283	23
24 893.163	966.647	1042.882	1121.846	8.9509309	8.9852679	9.0182353	9.0501654	24
25 894.365	967.895	1044.176	1123.185	8.9515148	8.9858281	9.0187736	9.0507025	25
26 895.568	969.144	1045.471	1124.525	8.9520982	8.9863883	9.0193119	9.0512396	26
27 896.771	970.394	1046.766	1125.866	8.9526818	8.9869478	9.0198494	9.0517767	27
28 897.976	971.644	1048.062	1127.207	8.9532648	8.9875072	9.0203870	9.0523138	28
29 899.181	972.895	1049.359	1128.549	8.9538471	8.9880659	9.0209238	9.0528509	29
30 900.387	974.147	1050.656	1129.892	8.9544294	8.9886246	9.0214607	9.0533880	30
31 901.594	975.400	1051.955	1131.235	8.9550108	8.9891835	9.0219969	9.0539251	31
32 902.801	976.653	1053.254	1132.580	8.9555922	8.9897404	9.0225330	9.0544622	32
33 904.010	977.908	1054.554	1133.925	8.9561729	8.9902976	9.0230685	9.0550000	33
34 905.219	979.162	1055.854	1135.270	8.9567535	8.9908548	9.0236039	9.0555379	34
35 906.428	980.418	1057.156	1136.617	8.9573333	8.9914112	9.0241387	9.0560758	35
36 907.639	981.675	1058.458	1137.964	8.9579131	8.9919676	9.0246735	9.0566137	36
37 908.850	982.932	1059.760	1139.312	8.9584921	8.9925233	9.0252076	9.0571516	37
38 910.062	984.190	1061.064	1140.661	8.9590711	8.9930790	9.0257416	9.0576895	38
39 911.275	985.449	1062.368	1142.011	8.9596493	8.9936339	9.0262750	9.0582274	39
40 912.489	986.708	1063.674	1143.361	8.9602275	8.9941888	9.0268084	9.0587653	40
41 913.703	987.969	1064.979	1144.712	8.9608049	8.9947430	9.0273411	9.0593032	41
42 914.918	989.230	1066.286	1146.064	8.9613823	8.9952972	9.0278738	9.0598411	42
43 916.134	990.492	1067.594	1147.416	8.9619589	8.9958506	9.0284058	9.0603790	43
44 917.351	991.754	1068.902	1148.770	8.9625355	8.9964041	9.0289378	9.0609169	44
45 918.568	993.018	1070.211	1150.124	8.9631112	8.9969568	9.0294691	9.0614548	45
46 919.786	994.282	1071.520	1151.478	8.9636870	8.9975095	9.0300004	9.0619927	46
47 921.000	995.547	1072.831	1152.834	8.9642620	8.9980614	9.0305310	9.0625306	47
48 922.225	996.812	1074.142	1154.191	8.9648370	8.9986134	9.0310616	9.0630685	48
49 923.444	998.079	1075.454	1155.547	8.9654122	8.9991646	9.0315916	9.0636064	49
50 924.667	999.346	1076.766	1156.905	8.9659854	8.9997158	9.0321215	9.0641443	50
51 925.889	1000.614	1078.080	1158.264	8.9665588	9.0002663	9.0326508	9.0646822	51
52 927.112	1001.883	1079.394	1159.623	8.9671322	9.0008168	9.0331800	9.0652201	52
53 928.335	1003.152	1080.709	1160.983	8.9677048	9.0013666	9.0337086	9.0657580	53
54 929.560	1004.422	1082.025	1162.344	8.9682774	9.0019163	9.0342372	9.0662959	54
55 930.785	1005.694	1083.341	1163.705	8.9688492	9.0024653	9.0347651	9.0668338	55
56 932.011	1006.965	1084.658	1165.068	8.9694210	9.0030144	9.0352930	9.0673717	56
57 933.238	1008.237	1085.976	1166.431	8.9699900	9.0035626	9.0358202	9.0679096	57
58 934.465	1009.511	1087.295	1167.794	8.9705630	9.0041109	9.0363474	9.0684475	58
59 935.693	1010.785	1088.615	1169.159	8.9711333	9.0046585	9.0368740	9.0689854	59
60 936.922	1012.060	1089.935	1170.524	8.9717035	9.0052061	9.0374005	9.0695233	60

Sines, and their Logarithms.

Deg. 65, 64, 63, 62

M	L. 65	L. 64	L. 63	L. 62	N. 65	N. 64	N. 63	N. 62	M
60	9.7732475	9.7614639	9.7494494	9.7372002	5932.634	5773.817	5616.288	5460.095	60
59	9.7730529	9.7612647	9.7492472	9.7369940	5929.977	5771.181	5613.674	5457.703	59
58	9.7728583	9.7610663	9.7490449	9.7367878	5927.320	5768.545	5611.060	5455.312	58
57	9.7726636	9.7608678	9.7488426	9.7365814	5924.663	5765.910	5608.446	5452.921	57
56	9.7724689	9.7606693	9.7486402	9.7363750	5922.007	5763.275	5605.833	5450.530	56
55	9.7722741	9.7604707	9.7484377	9.7361686	5919.351	5760.640	5603.220	5448.140	55
54	9.7720792	9.7602721	9.7482352	9.7359621	5916.695	5758.006	5600.608	5445.750	54
53	9.7718842	9.7600733	9.7480326	9.7357554	5914.040	5755.372	5597.996	5443.361	53
52	9.7716893	9.7598746	9.7478299	9.7355488	5911.385	5752.738	5595.384	5440.972	52
51	9.7714942	9.7596757	9.7476272	9.7353421	5908.731	5750.105	5592.773	5438.583	51
50	9.7712991	9.7594769	9.7474244	9.7351353	5906.077	5747.472	5590.162	5436.194	50
49	9.7711039	9.7592779	9.7472215	9.7349284	5903.423	5744.839	5587.551	5433.805	49
48	9.7709087	9.7590789	9.7470186	9.7347215	5900.769	5742.207	5584.941	5431.416	48
47	9.7707133	9.7588797	9.7468156	9.7345145	5898.116	5739.575	5582.331	5429.027	47
46	9.7705180	9.7586806	9.7466126	9.7343074	5895.463	5736.944	5579.722	5426.638	46
45	9.7703225	9.7584813	9.7464094	9.7341003	5892.811	5734.313	5577.113	5424.249	45
44	9.7701271	9.7582821	9.7462063	9.7338931	5890.159	5731.682	5574.504	5421.860	44
43	9.7699315	9.7580827	9.7460030	9.7336858	5887.507	5729.051	5571.896	5419.471	43
42	9.7697359	9.7578833	9.7457997	9.7334785	5884.856	5726.421	5569.288	5417.082	42
41	9.7695402	9.7576838	9.7455963	9.7332711	5882.205	5723.791	5566.680	5414.693	41
40	9.7693444	9.7574843	9.7453928	9.7330636	5879.554	5721.162	5564.073	5412.304	40
39	9.7691486	9.7572846	9.7451893	9.7328560	5876.904	5718.533	5561.466	5409.915	39
38	9.7689528	9.7570850	9.7449857	9.7326485	5874.254	5715.904	5558.860	5407.526	38
37	9.7687568	9.7568852	9.7447821	9.7324408	5871.603	5713.275	5556.254	5405.137	37
36	9.7685608	9.7566853	9.7445784	9.7322331	5868.956	5710.646	5553.648	5402.748	36
35	9.7683647	9.7564855	9.7443745	9.7320252	5866.307	5708.021	5551.043	5399.359	35
34	9.7681687	9.7562856	9.7441707	9.7318174	5863.655	5705.394	5548.438	5396.970	34
33	9.7679724	9.7560856	9.7439668	9.7316094	5861.011	5702.767	5545.833	5394.581	33
32	9.7677762	9.7558856	9.7437628	9.7314014	5858.363	5700.141	5543.229	5392.192	32
31	9.7675799	9.7556854	9.7435587	9.7311933	5855.715	5697.515	5540.625	5389.803	31
30	9.7673835	9.7554853	9.7433547	9.7309851	5853.068	5694.889	5538.022	5387.414	30
29	9.7671871	9.7552850	9.7431505	9.7307765	5850.421	5692.264	5535.419	5385.025	29
28	9.7669906	9.7550847	9.7429462	9.7305686	5847.774	5689.639	5532.816	5382.636	28
27	9.7667940	9.7548843	9.7427419	9.7303603	5845.128	5687.014	5530.214	5380.247	27
26	9.7665974	9.7546839	9.7425375	9.7301519	5842.482	5684.390	5527.612	5377.858	26
25	9.7664007	9.7544838	9.7423331	9.7299433	5839.837	5681.766	5525.010	5375.469	25
24	9.7662040	9.7542828	9.7421286	9.7297348	5837.192	5679.142	5522.409	5373.080	24
23	9.7660071	9.7540821	9.7419240	9.7295261	5834.547	5676.517	5519.808	5370.691	23
22	9.7658103	9.7538814	9.7417193	9.7293175	5831.902	5673.895	5517.208	5368.302	22
21	9.7656133	9.7536806	9.7415146	9.7291087	5829.259	5671.274	5514.608	5365.913	21
20	9.7654164	9.7534798	9.7413099	9.7288999	5826.615	5668.652	5512.008	5363.524	20
19	9.7652193	9.7532789	9.7411050	9.7286909	5823.972	5666.030	5509.409	5361.135	19
18	9.7650222	9.7530779	9.7409001	9.7284820	5821.329	5663.409	5506.810	5358.746	18
17	9.7648249	9.7528769	9.7406951	9.7282725	5818.687	5660.788	5504.212	5356.357	17
16	9.7646277	9.7526758	9.7404901	9.7280638	5816.045	5658.167	5501.614	5353.968	16
15	9.7644304	9.7524746	9.7402849	9.7278546	5813.403	5655.547	5499.016	5351.579	15
14	9.7642330	9.7522734	9.7400798	9.7276454	5810.761	5652.927	5496.418	5349.190	14
13	9.7640355	9.7520721	9.7398745	9.7274360	5808.120	5650.307	5493.821	5346.801	13
12	9.7638381	9.7518708	9.7396692	9.7272267	5805.479	5647.688	5491.224	5344.412	12
11	9.7636405	9.7516693	9.7394638	9.7270172	5802.838	5645.069	5488.628	5342.023	11
10	9.7634429	9.7514679	9.7392584	9.7268077	5800.198	5642.451	5486.032	5339.634	10
9	9.7632451	9.7512663	9.7390528	9.7265981	5797.558	5639.833	5483.437	5337.245	9
8	9.7630474	9.7510647	9.7388473	9.7263885	5794.915	5637.215	5480.842	5334.856	8
7	9.7628496	9.7508630	9.7386416	9.7261787	5792.280	5634.598	5478.242	5332.467	7
6	9.7626517	9.7506613	9.7384359	9.7259689	5789.641	5631.981	5475.653	5330.078	6
5	9.7624537	9.7504594	9.7382301	9.7257590	5787.003	5629.365	5473.059	5327.689	5
4	9.7622557	9.7502576	9.7380243	9.7255491	5784.365	5626.749	5470.465	5325.300	4
3	9.7620576	9.7500556	9.7378183	9.7253391	5781.727	5624.133	5467.872	5322.911	3
2	9.7618595	9.7498536	9.7376124	9.7251290	5779.090	5621.518	5465.279	5320.522	2
1	9.7616613	9.7496515	9.7374063	9.7249188	5776.453	5618.903	5462.687	5318.133	1
0	9.7614630	9.7494494	9.7372002	9.7247087	5773.817	5616.288	5460.095	5315.744	0

Deg. 28, 29, 30, 31.

A Table of Natural Verfed

M.	N. 28	N. 29	N. 30	N. 31	L. 28	L. 29	L. 30	L. 31	M.
0	170.524	1253.803	1339.746	1428.327	9.0683803	9.0982293	9.1270225	9.1548276	0
1	171.890	1255.214	1341.201	1429.826	9.0688867	9.0987175	9.1274937	9.1552825	1
2	173.257	1256.625	1342.656	1431.325	9.0693931	9.0992057	9.1279649	9.1557382	2
3	174.624	1258.037	1344.113	1432.825	9.0698988	9.0996933	9.1284355	9.1561930	3
4	175.993	1259.450	1345.570	1434.326	9.0704046	9.1001809	9.1289062	9.1566477	4
5	177.362	1260.863	1347.027	1435.827	9.0709097	9.1006674	9.1293763	9.1561026	5
6	178.731	1262.278	1348.486	1437.325	9.0714148	9.1011549	9.1298464	9.1575562	6
7	180.102	1263.693	1349.945	1438.832	9.0719193	9.1016414	9.1303159	9.1580100	7
8	181.473	1265.109	1351.405	1440.336	9.0724238	9.1021278	9.1307855	9.1584637	8
9	182.845	1266.525	1352.866	1441.840	9.0729277	9.1026130	9.1312545	9.1589169	9
10	184.218	1267.942	1354.327	1443.345	9.0734316	9.1030995	9.1317232	9.1593701	10
11	185.591	1269.360	1355.789	1444.851	9.0739348	9.1035848	9.1321920	9.1598229	11
12	186.965	1270.779	1357.252	1446.357	9.0744381	9.1040701	9.1326605	9.1602756	12
13	188.340	1272.199	1358.716	1447.865	9.0749407	9.1045548	9.1331284	9.1607278	13
14	189.716	1273.619	1360.180	1449.373	9.0754434	9.1050395	9.1335964	9.1611800	14
15	191.093	1275.040	1361.645	1450.881	9.0759454	9.1055236	9.1340637	9.1616318	15
16	192.470	1276.462	1363.111	1452.391	9.0764474	9.1060078	9.1345311	9.1620835	16
17	193.848	1277.884	1364.577	1453.901	9.0769488	9.1064913	9.1349980	9.1625347	17
18	195.226	1279.307	1366.044	1455.412	9.0774502	9.1069749	9.1354648	9.1629853	18
19	196.606	1280.731	1367.512	1456.923	9.0779510	9.1074578	9.1359312	9.1634366	19
20	197.986	1282.156	1368.981	1458.436	9.0784518	9.1079408	9.1363975	9.1638873	20
21	199.367	1283.581	1370.451	1459.949	9.0789519	9.1084232	9.1368630	9.1643376	21
22	200.749	1285.007	1371.921	1461.462	9.0794521	9.1089056	9.1373250	9.1647874	22
23	202.131	1286.434	1373.392	1462.977	9.0799517	9.1093877	9.1377943	9.1652373	23
24	203.514	1287.862	1374.863	1464.492	9.0804512	9.1098693	9.1382595	9.1656870	24
25	204.898	1289.290	1376.336	1466.008	9.0809502	9.1103506	9.1387242	9.1661362	25
26	206.283	1290.719	1377.809	1467.525	9.0814491	9.1108318	9.1391884	9.1665854	26
27	207.668	1292.149	1379.283	1469.042	9.0819475	9.1113125	9.1396531	9.1670341	27
28	209.054	1293.580	1380.757	1470.560	9.0824458	9.1117932	9.1401173	9.1674828	28
29	210.441	1295.011	1382.232	1472.079	9.0829436	9.1122733	9.1405809	9.1679309	29
30	211.829	1296.443	1383.708	1473.598	9.0834413	9.1127534	9.1410446	9.1683791	30
31	213.217	1297.876	1385.185	1475.119	9.0839384	9.1132337	9.1415077	9.1688268	31
32	214.606	1299.309	1386.663	1476.640	9.0844356	9.1137126	9.1419708	9.1692749	32
33	215.996	1300.744	1388.141	1478.161	9.0849321	9.1141915	9.1424334	9.1697233	33
34	217.387	1302.179	1389.620	1479.684	9.0854286	9.1146705	9.1428960	9.1701689	34
35	218.778	1303.614	1391.099	1481.207	9.0859245	9.1151490	9.1433580	9.1706135	35
36	220.170	1305.051	1392.580	1482.731	9.0864204	9.1156274	9.1438201	9.1710562	36
37	221.563	1306.488	1394.061	1484.255	9.0869157	9.1161052	9.1442816	9.1714983	37
38	222.957	1307.926	1395.543	1485.781	9.0874111	9.1165831	9.1447431	9.1719397	38
39	224.351	1309.364	1397.025	1487.307	9.0879058	9.1170604	9.1452041	9.1723804	39
40	225.746	1310.804	1398.508	1488.833	9.0884005	9.1175377	9.1456651	9.1728211	40
41	227.142	1312.244	1399.993	1490.361	9.0888946	9.1180145	9.1461266	9.1732613	41
42	228.538	1313.685	1401.477	1491.889	9.0893887	9.1184912	9.1465861	9.1737019	42
43	229.936	1315.126	1402.963	1493.418	9.0898822	9.1189674	9.1470460	9.1741418	43
44	231.334	1316.569	1404.449	1494.947	9.0903758	9.1194436	9.1475060	9.1745814	44
45	232.732	1318.012	1405.936	1496.478	9.0908687	9.1199192	9.1479664	9.1750201	45
46	234.132	1319.456	1407.424	1498.009	9.0913616	9.1203948	9.1484268	9.1754584	46
47	235.532	1320.900	1408.912	1499.541	9.0918539	9.1208699	9.1488877	9.1758951	47
48	236.933	1322.345	1410.401	1501.073	9.0923462	9.1213449	9.1493480	9.1763318	48
49	238.335	1323.791	1411.891	1502.606	9.0928380	9.1218194	9.1498084	9.1767685	49
50	239.737	1325.238	1413.381	1504.140	9.0933297	9.1222939	9.1502690	9.1772033	50
51	241.141	1326.686	1414.873	1505.675	9.0938208	9.1227679	9.1507292	9.1776371	51
52	242.545	1328.134	1416.365	1507.210	9.0943120	9.1232419	9.1511895	9.1780708	52
53	243.949	1329.583	1417.857	1508.746	9.0948025	9.1237153	9.1516498	9.1785045	53
54	245.355	1331.033	1419.351	1510.283	9.0952931	9.1241887	9.1521098	9.1789384	54
55	246.761	1332.483	1420.845	1511.821	9.0957830	9.1246615	9.1525696	9.1793725	55
56	248.168	1333.934	1422.340	1513.358	9.0962730	9.1251344	9.1530294	9.1798065	56
57	249.575	1335.386	1423.833	1514.898	9.0967624	9.1256057	9.1534897	9.1802405	57
58	250.984	1336.839	1425.332	1516.438	9.0972517	9.1260790	9.1539491	9.1806745	58
59	252.393	1338.292	1426.835	1517.978	9.0977405	9.1265507	9.1544085	9.1811085	59
60	253.803	1339.746	1428.327	1519.518	9.0982293	9.1270225	9.1548676	9.1815426	60

Sines, and their Logarithms.

Deg. 61, 60, 59, 58,

	L. 61	L. 60	L. 59	L. 58	N. 61	N. 60	N. 59	N. 58	M
60	9.7247087	9.7119577	9.6989700	9.6857076	5305.284	5151.904	5000.000	4849.619	60
59	9.7244983	9.7117532	9.6987511	9.6854843	5302.716	5149.360	4997.481	4847.126	59
58	9.7242880	9.7115387	9.6985322	9.6852609	5300.148	5146.816	4994.962	4844.633	58
57	9.7240776	9.7113240	9.6983132	9.6850374	5297.581	5144.273	4992.444	4842.141	57
56	9.7238671	9.7111093	9.6980942	9.6848139	5295.014	5141.730	4989.926	4839.649	56
55	9.7236565	9.7108945	9.6978750	9.6845902	5292.447	5139.188	4987.409	4837.157	55
54	9.7234459	9.7106797	9.6976558	9.6843665	5289.881	5136.646	4984.892	4834.666	54
53	9.7232352	9.7104649	9.6974365	9.6841427	5287.315	5134.105	4982.376	4832.175	53
52	9.7230244	9.7102497	9.6972172	9.6839189	5284.750	5131.564	4979.860	4829.685	52
51	9.7228136	9.7100346	9.6969977	9.6836949	5282.185	5129.023	4977.344	4827.195	51
50	9.7226037	9.7098195	9.6967782	9.6834710	5279.620	5126.483	4974.829	4824.706	50
49	9.7223917	9.7096042	9.6965586	9.6832468	5277.056	5123.943	4972.314	4822.217	49
48	9.7221807	9.7093890	9.6963390	9.6830227	5274.493	5121.404	4969.800	4819.729	48
47	9.7219695	9.7091736	9.6961192	9.6827984	5271.929	5118.865	4967.286	4817.241	47
46	9.7217584	9.7089582	9.6958994	9.6825741	5269.366	5116.326	4964.773	4814.754	46
45	9.7215471	9.7087426	9.6956795	9.6823497	5266.803	5113.788	4962.260	4812.267	45
44	9.7213358	9.7085271	9.6954596	9.6821253	5264.241	5111.250	4959.747	4809.780	44
43	9.7211243	9.7083114	9.6952395	9.6819007	5261.679	5108.713	4957.235	4807.294	43
42	9.7209129	9.7080957	9.6950194	9.6816761	5259.118	5106.176	4954.723	4804.808	42
41	9.7207013	9.7078799	9.6947992	9.6814514	5256.557	5103.639	4952.212	4802.323	41
40	9.7204898	9.7076641	9.6945790	9.6812266	5253.996	5101.102	4949.701	4799.838	40
39	9.7202781	9.7074481	9.6943587	9.6810018	5251.436	5098.567	4947.191	4797.354	39
38	9.7200663	9.7072321	9.6941383	9.6807769	5248.876	5096.033	4944.681	4794.870	38
37	9.7198545	9.7070160	9.6939178	9.6805518	5246.317	5093.497	4942.171	4792.386	37
36	9.7196426	9.7067999	9.6936973	9.6803268	5243.758	5090.963	4939.662	4789.903	36
35	9.7194306	9.7065836	9.6934766	9.6801016	5241.199	5088.429	4937.153	4787.420	35
34	9.7192186	9.7063674	9.6932559	9.6798764	5238.641	5085.895	4934.645	4784.938	34
33	9.7190065	9.7061510	9.6930351	9.6796510	5236.083	5083.362	4932.137	4782.456	33
32	9.7187944	9.7059346	9.6928143	9.6794257	5233.526	5080.829	4929.630	4779.975	32
31	9.7185821	9.7057180	9.6925934	9.6792002	5230.969	5078.297	4927.123	4777.494	31
30	9.7183698	9.7055015	9.6923724	9.6789747	5228.412	5075.765	4924.616	4775.014	30
29	9.7181574	9.7052848	9.6921513	9.6787490	5225.856	5073.233	4922.110	4772.534	29
28	9.7179450	9.7050681	9.6919302	9.6785234	5223.300	5070.702	4919.604	4770.054	28
27	9.7177325	9.7048512	9.6917089	9.6782976	5220.745	5068.171	4917.099	4767.575	27
26	9.7175201	9.7046344	9.6914877	9.6780717	5218.190	5065.641	4914.594	4765.096	26
25	9.7173072	9.7044174	9.6912663	9.6778458	5215.635	5063.111	4912.089	4762.618	25
24	9.7170945	9.7042004	9.6910449	9.6776198	5213.081	5060.582	4909.585	4760.140	24
23	9.7168817	9.7039833	9.6908233	9.6773937	5210.527	5058.053	4907.081	4757.663	23
22	9.7166688	9.7037661	9.6906017	9.6771676	5207.974	5055.524	4904.578	4755.186	22
21	9.7164559	9.7035489	9.6903800	9.6769413	5205.421	5052.996	4902.075	4752.710	21
20	9.7162429	9.7033316	9.6901583	9.6767150	5202.868	5050.468	4899.573	4750.234	20
19	9.7160298	9.7031142	9.6899365	9.6764886	5200.316	5047.941	4897.071	4747.759	19
18	9.7158166	9.7028967	9.6897146	9.6762622	5197.764	5045.414	4894.569	4745.284	18
17	9.7156034	9.7026792	9.6894926	9.6760356	5195.213	5042.887	4892.069	4742.809	17
16	9.7153901	9.7024616	9.6892706	9.6758090	5192.662	5040.361	4889.569	4740.335	16
15	9.7151767	9.7022439	9.6890484	9.6755823	5190.112	5037.835	4887.069	4737.861	15
14	9.7149633	9.7020262	9.6888263	9.6753555	5187.562	5035.310	4884.569	4735.388	14
13	9.7147498	9.7018083	9.6886040	9.6751286	5185.012	5032.785	4882.070	4732.915	13
12	9.7145362	9.7015905	9.6883817	9.6749017	5182.463	5030.260	4879.571	4730.443	12
11	9.7143225	9.7013725	9.6881592	9.6746747	5179.914	5027.736	4877.073	4727.971	11
10	9.7141089	9.7011545	9.6879368	9.6744476	5177.365	5025.212	4874.575	4725.499	10
9	9.7138950	9.7009363	9.6877141	9.6742204	5174.817	5022.689	4872.078	4723.028	9
8	9.7136812	9.7007182	9.6874915	9.6739932	5172.269	5020.166	4869.581	4720.557	8
7	9.7134672	9.7004999	9.6872688	9.6737659	5169.722	5017.644	4867.084	4718.087	7
6	9.7132533	9.7002816	9.6870460	9.6735385	5167.175	5015.122	4864.588	4715.617	6
5	9.7130392	9.7000631	9.6868231	9.6733110	5164.629	5012.601	4862.092	4713.148	5
4	9.7128250	9.6998447	9.6866002	9.6730835	5162.083	5010.080	4859.597	4710.679	4
3	9.7126108	9.6996271	9.6863771	9.6728558	5159.538	5007.559	4857.102	4708.211	3
2	9.7123965	9.6994075	9.6861541	9.6726281	5156.993	5005.039	4854.607	4705.743	2
1	9.7121821	9.6991887	9.6859305	9.6724003	5154.448	5002.519	4852.113	4703.275	1
0	9.7119677	9.6989700	9.6857076	9.6721725	5151.904	5000.000	4849.619	4700.808	0

Deg 32333435

A Table of Natural Veried

M	N. 32	N. 33	N. 34	N. 35	L. 32	L. 33	L. 34	L. 35	V
0	1519.519	1613.294	1709.624	1808.480	9.1817061	9.2077136	9.2329007	9.2573136	0
1	1521.061	1614.879	1711.251	1810.148	9.1821465	9.2081395	9.2333137	9.2577141	1
2	1522.603	1616.464	1712.879	1811.818	9.1825868	9.2085661	9.2337267	9.2581147	2
3	1524.147	1618.050	1714.507	1813.483	9.1830266	9.2089919	9.2341392	9.2585146	3
4	1525.691	1619.637	1716.136	1815.159	9.1834665	9.2094177	9.2345518	9.2589147	4
5	1527.235	1621.225	1717.766	1816.831	9.1839059	9.2098431	9.2349639	9.2593143	5
6	1528.781	1622.813	1719.397	1818.502	9.1843452	9.2102684	9.2353761	9.2597140	6
7	1530.327	1624.402	1721.028	1820.178	9.1847841	9.2106933	9.2357878	9.2601132	7
8	1531.874	1625.991	1722.660	1821.849	9.1852230	9.2111182	9.2361995	9.2605125	8
9	1533.421	1627.582	1724.292	1823.524	9.1856614	9.2115427	9.2366108	9.2609119	9
10	1534.970	1629.173	1725.926	1825.199	9.1860995	9.2119671	9.2370221	9.2613102	10
11	1536.519	1630.764	1727.560	1826.875	9.1865377	9.2123911	9.2374329	9.2617086	11
12	1538.068	1632.357	1729.194	1828.551	9.1869756	9.2128151	9.2378438	9.2621071	12
13	1539.619	1633.950	1730.830	1830.228	9.1874131	9.2132387	9.2382542	9.2625055	13
14	1541.170	1635.544	1732.466	1831.906	9.1878505	9.2136622	9.2386647	9.2629032	14
15	1542.722	1637.138	1734.103	1833.584	9.1882875	9.2140853	9.2390747	9.2633008	15
16	1544.274	1638.734	1735.740	1835.264	9.1887245	9.2145084	9.2394847	9.2636985	16
17	1545.828	1640.330	1737.378	1836.944	9.1891610	9.2149310	9.2398943	9.2640957	17
18	1547.382	1641.926	1739.017	1838.624	9.1895974	9.2153537	9.2403038	9.2644929	18
19	1548.935	1643.524	1740.657	1840.305	9.1900335	9.2157759	9.2407130	9.2648898	19
20	1550.492	1645.122	1742.297	1841.987	9.1904695	9.2161981	9.2411222	9.2652866	20
21	1552.048	1646.721	1743.938	1843.670	9.1909050	9.2166198	9.2415309	9.2656831	21
22	1553.605	1648.320	1745.580	1845.353	9.1913406	9.2170416	9.2419396	9.2660795	22
23	1555.162	1649.920	1747.222	1847.037	9.1917766	9.2174629	9.2423480	9.2664756	23
24	1556.721	1651.521	1748.865	1848.722	9.1922107	9.2178842	9.2427563	9.2668716	24
25	1558.280	1653.123	1750.509	1850.407	9.1926453	9.2183051	9.2431642	9.2672673	25
26	1559.839	1654.725	1752.153	1852.094	9.1930799	9.2187259	9.2435721	9.2676629	26
27	1561.400	1656.328	1753.798	1853.780	9.1935140	9.2191463	9.2439796	9.2680582	27
28	1562.961	1657.932	1755.444	1855.468	9.1939482	9.2195668	9.2443871	9.2684534	28
29	1564.523	1659.537	1757.091	1857.156	9.1943818	9.2199867	9.2447941	9.2688483	29
30	1566.086	1661.142	1758.738	1858.845	9.1948155	9.2204067	9.2452012	9.2692431	30
31	1567.649	1662.748	1760.386	1860.534	9.1952487	9.2208262	9.2456078	9.2696376	31
32	1569.213	1664.354	1762.035	1862.225	9.1956819	9.2212458	9.2460145	9.2700321	32
33	1570.775	1665.962	1763.684	1863.916	9.1961146	9.2216649	9.2464207	9.2704261	33
34	1572.343	1667.570	1765.334	1865.607	9.1965473	9.2220839	9.2468269	9.2708202	34
35	1573.909	1669.178	1766.985	1867.299	9.1969795	9.2225026	9.2472327	9.2712139	35
36	1575.476	1670.783	1768.638	1868.992	9.1974118	9.2229212	9.2476385	9.2716075	36
37	1577.044	1672.398	1770.288	1870.686	9.1978436	9.2233395	9.2480439	9.2720008	37
38	1578.612	1674.009	1771.941	1872.380	9.1982754	9.2237577	9.2484493	9.2723941	38
39	1580.181	1675.620	1773.595	1874.074	9.1987067	9.2241754	9.2488543	9.2727870	39
40	1581.751	1677.232	1775.249	1875.771	9.1991380	9.2245932	9.2492593	9.2731799	40
41	1583.321	1678.845	1776.904	1877.468	9.1995689	9.2250105	9.2496619	9.2735724	41
42	1584.892	1680.459	1778.560	1879.165	9.1999997	9.2254279	9.2500684	9.2739649	42
43	1586.464	1682.073	1780.216	1880.863	9.2004301	9.2258448	9.2504726	9.2743570	43
44	1588.037	1683.688	1781.873	1882.561	9.2008605	9.2262617	9.2508767	9.2747491	44
45	1589.610	1685.304	1783.531	1884.260	9.2012904	9.2266781	9.2512805	9.2751403	45
46	1591.184	1686.920	1785.189	1885.960	9.2017204	9.2270946	9.2516842	9.2755325	46
47	1592.759	1688.537	1786.848	1887.661	9.2021498	9.2275106	9.2520875	9.2759238	47
48	1594.334	1690.155	1788.506	1889.362	9.2025793	9.2279266	9.2524909	9.2763151	48
49	1595.910	1691.774	1790.168	1891.064	9.2030083	9.2283422	9.2528938	9.2767061	49
50	1597.487	1693.393	1791.830	1892.766	9.2034373	9.2287578	9.2532967	9.2770970	50
51	1599.062	1695.013	1793.491	1894.470	9.2038655	9.2291729	9.2536992	9.2774875	51
52	1600.645	1696.634	1795.154	1896.174	9.2042944	9.2295881	9.2541017	9.2778781	52
53	1602.222	1698.255	1796.817	1897.878	9.2047225	9.2299902	9.2545033	9.2782683	53
54	1603.801	1699.877	1798.481	1899.584	9.2051506	9.2304175	9.2549059	9.2786584	54
55	1605.383	1701.500	1800.146	1901.290	9.2055782	9.2308318	9.2553076	9.2790482	55
56	1606.963	1703.123	1801.811	1902.996	9.2060058	9.2312461	9.2557093	9.2794380	56
57	1608.545	1704.744	1803.477	1904.704	9.2064330	9.2316600	9.2561109	9.2798277	57
58	1610.127	1706.372	1805.144	1906.412	9.2068602	9.2320738	9.2565119	9.2802167	58
59	1611.710	1707.998	1806.811	1908.121	9.2072869	9.2324872	9.2569127	9.2806057	59
60	1613.292	1709.624	1808.480	1909.831	9.2077136	9.2329007	9.2573136	9.2809947	60

Sines, and their Logarithms

Deg. 57, 56, 55, 54

M	L. 57	L. 56	L. 55	L. 54	N. 57	N. 56	N. 55	N. 54	M
60	9.6721725	9.6583558	9.6442486	9.6298412	4700.805	4553.610	4408.071	4264.235	60
59	9.6719445	9.6581230	9.6440109	9.6295984	4698.241	4551.171	4405.660	4261.853	59
58	9.6717165	9.6578903	9.6437732	9.6293557	4695.875	4548.732	4403.249	4259.471	58
57	9.6714883	9.6576574	9.6435354	9.6291127	4693.409	4546.293	4400.839	4257.089	57
56	9.6712602	9.6574245	9.6432975	9.6288698	4690.944	4543.855	4398.429	4254.708	56
55	9.6710319	9.6571914	9.6430595	9.6286267	4688.479	4541.417	4396.019	4252.328	55
54	9.6708036	9.6569583	9.6428215	9.6283835	4686.015	4538.980	4393.610	4249.948	54
53	9.6705751	9.6567251	9.6425833	9.6281403	4683.551	4536.543	4391.202	4247.568	53
52	9.6703467	9.6564918	9.6423452	9.6278970	4681.087	4534.108	4388.794	4245.189	52
51	9.6701181	9.6562584	9.6421068	9.6276535	4678.624	4531.672	4386.386	4242.810	51
50	9.6698895	9.6560250	9.6418685	9.6274101	4676.161	4529.237	4383.979	4240.432	50
49	9.6696607	9.6557915	9.6416299	9.6271664	4673.699	4526.803	4381.573	4238.054	49
48	9.6694319	9.6555579	9.6413914	9.6269228	4671.237	4524.368	4379.167	4235.677	48
47	9.6692030	9.6553242	9.6411527	9.6266790	4668.776	4521.934	4376.761	4233.300	47
46	9.6689741	9.6550904	9.6409141	9.6264352	4666.315	4519.501	4374.356	4230.924	46
45	9.6687450	9.6548566	9.6406752	9.6261912	4663.855	4517.068	4371.951	4228.548	45
44	9.6685159	9.6546227	9.6404364	9.6259473	4661.395	4514.636	4369.547	4226.173	44
43	9.6682867	9.6543886	9.6401973	9.6257031	4658.935	4512.204	4367.143	4223.798	43
42	9.6680574	9.6541546	9.6399583	9.6254589	4656.476	4509.772	4364.740	4221.424	42
41	9.6678280	9.6539204	9.6397191	9.6252146	4654.017	4507.341	4362.337	4219.050	41
40	9.6675986	9.6536861	9.6394800	9.6249703	4651.559	4504.910	4359.934	4216.676	40
39	9.6673691	9.6534518	9.6392406	9.6247258	4649.102	4502.480	4357.532	4214.303	39
38	9.6671395	9.6532174	9.6390012	9.6244813	4646.645	4500.050	4355.131	4211.931	38
37	9.6669098	9.6529828	9.6387617	9.6242366	4644.188	4497.621	4352.730	4209.559	37
36	9.6666801	9.6527483	9.6385222	9.6239919	4641.732	4495.192	4350.330	4207.188	36
35	9.6664502	9.6525136	9.6382825	9.6237471	4639.276	4492.764	4347.930	4204.817	35
34	9.6662203	9.6522789	9.6380428	9.6235022	4636.821	4490.336	4345.531	4202.447	34
33	9.6659903	9.6520440	9.6378030	9.6232572	4634.366	4487.909	4343.132	4200.077	33
32	9.6657603	9.6518092	9.6375633	9.6230122	4631.912	4485.482	4340.734	4197.708	32
31	9.6655301	9.6515741	9.6373231	9.6227670	4629.458	4483.056	4338.336	4195.339	31
30	9.6652989	9.6513391	9.6370830	9.6225218	4627.001	4480.630	4335.938	4192.970	30
29	9.6650695	9.6511039	9.6368428	9.6222764	4624.545	4478.205	4333.541	4190.602	29
28	9.6648392	9.6508687	9.6366016	9.6220311	4622.098	4475.780	4331.144	4188.234	28
27	9.6646087	9.6506333	9.6363623	9.6217855	4619.646	4473.355	4328.748	4185.867	27
26	9.6643781	9.6503980	9.6361219	9.6215400	4617.194	4470.931	4326.352	4183.501	26
25	9.6641475	9.6501625	9.6358813	9.6212942	4614.742	4468.507	4323.957	4181.135	25
24	9.6639168	9.6499269	9.6356408	9.6210485	4612.291	4466.084	4321.562	4178.770	24
23	9.6636860	9.6496912	9.6354001	9.6208026	4609.841	4463.662	4319.166	4176.405	23
22	9.6634552	9.6494556	9.6351594	9.6205567	4607.391	4461.240	4316.774	4174.041	22
21	9.6632243	9.6492197	9.6349185	9.6203106	4604.942	4458.818	4314.381	4171.677	21
20	9.6629932	9.6489839	9.6346776	9.6200645	4602.493	4456.397	4311.988	4169.313	20
19	9.6627620	9.6487478	9.6344366	9.6198183	4600.045	4453.976	4309.596	4166.950	19
18	9.6625309	9.6485118	9.6341955	9.6195720	4597.597	4451.556	4307.204	4164.588	18
17	9.6622996	9.6482756	9.6339543	9.6193256	4595.149	4449.136	4304.813	4162.226	17
16	9.6620683	9.6480394	9.6337131	9.6190792	4592.702	4446.717	4302.422	4159.864	16
15	9.6618368	9.6478031	9.6334717	9.6188326	4590.255	4444.298	4300.032	4157.503	15
14	9.6616053	9.6475667	9.6332303	9.6185860	4587.809	4441.880	4297.641	4155.142	14
13	9.6613737	9.6473302	9.6329887	9.6183392	4585.362	4439.463	4295.253	4152.782	13
12	9.6611421	9.6470937	9.6327472	9.6180924	4582.918	4437.044	4292.864	4150.422	12
11	9.6609103	9.6468570	9.6325054	9.6178454	4580.473	4434.627	4290.476	4148.063	11
10	9.6606785	9.6466204	9.6322637	9.6175985	4578.028	4432.210	4288.088	4145.705	10
9	9.6604466	9.6463835	9.6320218	9.6173513	4575.584	4429.794	4285.701	4143.347	9
8	9.6602146	9.6461467	9.6317795	9.6171042	4573.141	4427.378	4283.314	4140.990	8
7	9.6599825	9.6459097	9.6315378	9.6168569	4570.698	4424.963	4280.928	4138.633	7
6	9.6597504	9.6456726	9.6312957	9.6166096	4568.255	4422.548	4278.542	4136.276	6
5	9.6595181	9.6454355	9.6310535	9.6163621	4565.813	4420.134	4276.156	4133.920	5
4	9.6592858	9.6451983	9.6308112	9.6161146	4563.371	4417.720	4273.771	4131.564	4
3	9.6590534	9.6449609	9.6305688	9.6158666	4560.930	4415.307	4271.387	4129.208	3
2	9.6588210	9.6447236	9.6303264	9.6156190	4558.489	4412.894	4269.003	4126.853	2
1	9.6585888	9.6444861	9.6300838	9.6153714	4556.050	4410.482	4266.616	4124.501	1
0	9.6583558	9.6442486	9.6298412	9.6151235	4553.610	4408.071	4264.235	4122.150	0

Deg. 36, 37, 38, 39. A Table of Natural Verfed

N. 36	N. 37	N. 38	N. 39	L. 36	L. 37	L. 38	L. 39	
0 1909.830	2015.64	2119.892	2228.545	9.2809947	9.3039829	9.3263138	9.3480205	0
1 1911.546	2015.396	2121.884	2230.371	9.2813833	9.3043603	9.3266805	9.3483771	1
2 1913.251	2017.147	2123.476	2232.203	9.2817720	9.3047376	9.3270473	9.3487337	2
3 1914.963	2018.900	2125.268	2234.035	9.2821602	9.3051147	9.3274136	9.3490899	3
4 1916.671	2020.653	2127.061	2235.868	9.2825484	9.3054917	9.3277800	9.3494462	4
5 1918.382	2022.406	2128.855	2237.702	9.2829363	9.3058683	9.3281460	9.3498021	5
6 1920.101	2024.161	2130.650	2239.536	9.2833241	9.3062450	9.3285121	9.3501580	6
7 1921.815	2025.916	2132.445	2241.371	9.2837116	9.3066213	9.3288778	9.3505136	7
8 1923.530	2027.671	2134.241	2243.206	9.2840990	9.3069976	9.3292434	9.3508692	8
9 1925.244	2029.428	2136.037	2245.043	9.2844861	9.3073735	9.3296088	9.3512245	9
10 1926.962	2031.185	2137.835	2246.879	9.2848732	9.3077494	9.3299741	9.3515798	10
11 1928.679	2032.942	2139.633	2248.717	9.2852599	9.3081250	9.3303391	9.3519347	11
12 1930.397	2034.701	2141.431	2250.555	9.2856466	9.3085006	9.3307042	9.3522897	12
13 1932.115	2036.460	2143.230	2252.394	9.2860329	9.3088758	9.3310688	9.3526443	13
14 1933.834	2038.220	2145.030	2254.233	9.2864192	9.3092510	9.3314334	9.3529989	14
15 1935.554	2039.980	2146.831	2256.074	9.2868052	9.3096258	9.3317977	9.3533532	15
16 1937.274	2041.741	2148.632	2257.914	9.2871911	9.3100007	9.3321620	9.3537075	16
17 1938.995	2043.503	2150.434	2259.756	9.2875767	9.3103752	9.3325260	9.3540614	17
18 1940.711	2045.265	2152.236	2261.598	9.2879622	9.3107496	9.3328900	9.3544154	18
19 1942.440	2047.028	2154.039	2263.441	9.2883474	9.3111238	9.3332536	9.3547690	19
20 1944.163	2048.792	2155.842	2265.284	9.2887326	9.3114979	9.3336172	9.3551227	20
21 1945.887	2050.556	2157.648	2267.128	9.2891174	9.3118716	9.3339808	9.3554760	21
22 1947.611	2052.322	2159.453	2268.973	9.2895022	9.3122454	9.3343438	9.3558293	22
23 1949.336	2054.087	2161.259	2270.818	9.2898866	9.3126188	9.3347067	9.3561823	23
24 1951.062	2055.854	2163.065	2272.664	9.2902711	9.3129922	9.3350697	9.3565353	24
25 1952.789	2057.621	2164.873	2274.511	9.2906551	9.3133653	9.3354323	9.3568880	25
26 1954.516	2059.389	2166.680	2276.358	9.2910392	9.3137383	9.3357949	9.3572406	26
27 1956.244	2061.157	2168.489	2278.206	9.2914229	9.3141110	9.3361571	9.3575930	27
28 1957.972	2062.926	2170.298	2280.055	9.2918065	9.3144837	9.3365194	9.3579453	28
29 1959.701	2064.696	2172.108	2281.904	9.2921898	9.3148561	9.3368818	9.3582973	29
30 1961.431	2066.467	2173.918	2283.754	9.2925731	9.3152284	9.3372432	9.3586494	30
31 1963.162	2068.238	2175.730	2285.605	9.2929560	9.3156004	9.3376048	9.3590011	31
32 1964.893	2070.010	2177.541	2287.456	9.2933390	9.3159724	9.3379664	9.3593528	32
33 1966.625	2071.782	2179.354	2289.308	9.2937215	9.3163440	9.3383277	9.3597041	33
34 1968.358	2073.555	2181.167	2291.160	9.2941041	9.3167156	9.3386889	9.3600553	34
35 1970.091	2075.329	2182.981	2293.014	9.2944862	9.3170869	9.3390497	9.3604066	35
36 1971.825	2077.104	2184.795	2294.868	9.2948684	9.3174582	9.3394108	9.3607576	36
37 1973.560	2078.879	2186.610	2296.722	9.2952502	9.3178291	9.3397713	9.3611084	37
38 1975.295	2080.655	2188.426	2298.577	9.2956320	9.3182000	9.3401319	9.3614591	38
39 1977.031	2082.431	2190.243	2300.433	9.2960135	9.3185706	9.3404921	9.3618095	39
40 1978.768	2084.208	2192.060	2302.290	9.2963949	9.3189413	9.3408524	9.3621599	40
41 1980.505	2085.986	2193.877	2304.147	9.2967760	9.3193113	9.3412123	9.3625100	41
42 1982.244	2087.765	2195.696	2306.004	9.2971570	9.3196815	9.3415722	9.3628601	42
43 1983.982	2089.544	2197.515	2307.863	9.2975377	9.3200514	9.3419318	9.3632099	43
44 1985.722	2091.324	2199.335	2309.722	9.2979184	9.3204213	9.3422913	9.3635597	44
45 1987.462	2093.104	2201.155	2311.582	9.2982987	9.3207908	9.3426506	9.3639092	45
46 1989.203	2094.885	2202.976	2313.442	9.2986790	9.3211603	9.3430098	9.3642586	46
47 1990.944	2096.667	2204.798	2315.303	9.2990590	9.3215294	9.3433687	9.3646078	47
48 1992.688	2098.450	2206.620	2317.165	9.2994389	9.3218986	9.3437276	9.3649569	48
49 1994.429	2100.233	2208.443	2319.027	9.2998185	9.3222674	9.3440862	9.3653057	49
50 1996.173	2102.017	2210.267	2320.890	9.3001981	9.3226362	9.3444448	9.3656546	50
51 1997.917	2103.802	2212.096	2322.754	9.3005773	9.3230047	9.3448030	9.3660031	51
52 1999.662	2105.587	2213.916	2324.618	9.3009565	9.3233731	9.3451612	9.3663516	52
53 2001.407	2107.373	2215.742	2326.483	9.3013354	9.3237412	9.3455191	9.3666998	53
54 2003.154	2109.159	2217.569	2328.348	9.3017142	9.3241094	9.3458770	9.3670480	54
55 2004.900	2110.946	2219.396	2330.215	9.3020927	9.3244771	9.3462346	9.3673959	55
56 2006.648	2112.734	2221.223	2332.082	9.3024712	9.3248449	9.3465921	9.3677437	56
57 2008.396	2114.523	2223.051	2333.949	9.3028493	9.3252123	9.3469494	9.3680913	57
58 2010.144	2116.312	2224.880	2335.817	9.3032274	9.3255797	9.3473067	9.3684388	58
59 2011.895	2118.102	2226.710	2337.686	9.3036051	9.3259468	9.3476636	9.3687861	59
60 2013.645	2119.892	2228.540	2339.556	9.3039829	9.3263138	9.3480205	9.3691334	60

Sines, and their Logarithms.

Deg. 53, 52, 51, 50

M	L. 53	L. 52	L. 51	L. 50	N. 53	N. 52	N. 51	N. 50	M
67	9.6151235	9.6000849	9.5847139	9.5689987	4122.148	3981.850	3843.385	3706.796	60
59	9.6148755	9.5998314	9.5844548	9.5687337	4119.795	3979.527	3841.093	3704.536	59
58	9.6146275	9.5995779	9.5841957	9.5684688	4117.442	3977.204	3838.802	3702.276	58
57	9.6143793	9.5993243	9.5839364	9.5682036	4115.090	3974.882	3836.511	3700.017	57
56	9.6141311	9.5990706	9.5836771	9.5679385	4112.738	3972.561	3834.220	3697.758	56
55	9.6138827	9.5988168	9.5834176	9.5676731	4110.387	3970.240	3831.930	3695.499	55
54	9.6136343	9.5985629	9.5831581	9.5674078	4108.035	3967.920	3829.641	3693.241	54
53	9.6133857	9.5983089	9.5828984	9.5671422	4105.684	3965.600	3827.352	3690.984	53
52	9.6131372	9.5980549	9.5826387	9.5668766	4103.333	3963.281	3825.064	3688.727	52
51	9.6128884	9.5978007	9.5823788	9.5666109	4100.987	3960.962	3822.776	3686.471	51
50	9.6126397	9.5975464	9.5821190	9.5663451	4098.635	3958.643	3820.488	3684.216	50
49	9.6123907	9.5972920	9.5818589	9.5660792	4096.281	3956.325	3818.201	3681.961	49
48	9.6121418	9.5970376	9.5815988	9.5658132	4093.944	3954.008	3815.915	3679.707	48
47	9.6118927	9.5967831	9.5813385	9.5655471	4091.597	3951.691	3813.629	3677.453	47
46	9.6116436	9.5965285	9.5810783	9.5652804	4089.250	3949.375	3811.344	3675.200	46
45	9.6113943	9.5962737	9.5808178	9.5650154	4086.904	3947.060	3809.060	3672.947	45
44	9.6111451	9.5960189	9.5805574	9.5647482	4084.558	3944.745	3806.776	3670.695	44
43	9.6108956	9.5957640	9.5802967	9.5644817	4082.213	3942.430	3804.492	3668.443	43
42	9.6106461	9.5955090	9.5800361	9.5642151	4079.868	3940.116	3802.209	3666.192	42
41	9.6103965	9.5952539	9.5797752	9.5639484	4077.524	3937.802	3799.926	3663.941	41
40	9.6101469	9.5949987	9.5795144	9.5636816	4075.180	3935.489	3797.644	3661.690	40
39	9.6098970	9.5947434	9.5792533	9.5634147	4072.837	3933.176	3795.362	3659.440	39
38	9.6096472	9.5944881	9.5789923	9.5631477	4070.495	3930.864	3793.081	3657.191	38
37	9.6093972	9.5942325	9.5787311	9.5628805	4068.153	3928.552	3790.801	3654.942	37
36	9.6091472	9.5939770	9.5784698	9.5626134	4065.811	3926.241	3788.521	3652.694	36
35	9.6088970	9.5937213	9.5782084	9.5623460	4063.470	3923.931	3786.242	3650.447	35
34	9.6086468	9.5934656	9.5779470	9.5620787	4061.129	3921.621	3783.963	3648.200	34
33	9.6083965	9.5932097	9.5776854	9.5618111	4058.789	3919.312	3781.685	3645.954	33
32	9.6081461	9.5929538	9.5774237	9.5615436	4056.449	3917.003	3779.407	3643.708	32
31	9.6078956	9.5926977	9.5771619	9.5612758	4054.110	3914.693	3777.130	3641.463	31
30	9.6076450	9.5924417	9.5769001	9.5610080	4051.772	3912.386	3774.854	3639.218	30
29	9.6073943	9.5921854	9.5766381	9.5607401	4049.434	3910.077	3772.578	3636.974	29
28	9.6071436	9.5919291	9.5763761	9.5604721	4047.096	3907.771	3770.302	3634.730	28
27	9.6068927	9.5916727	9.5761139	9.5602040	4044.759	3905.464	3768.027	3632.487	27
26	9.6066417	9.5914162	9.5758517	9.5599358	4042.422	3903.158	3765.752	3630.244	26
25	9.6063907	9.5911599	9.5755893	9.5596674	4040.086	3900.853	3763.478	3628.001	25
24	9.6061396	9.5909029	9.5753269	9.5593991	4037.750	3898.548	3761.204	3625.759	24
23	9.6058883	9.5906461	9.5750643	9.5591305	4035.415	3896.244	3758.931	3623.518	23
22	9.6056370	9.5903893	9.5748017	9.5588619	4033.081	3893.940	3756.658	3621.278	22
21	9.6053856	9.5901322	9.5745389	9.5585932	4030.747	3891.636	3754.386	3619.038	21
20	9.6051341	9.5898752	9.5742761	9.5583244	4028.414	3889.333	3752.115	3616.799	20
19	9.6048825	9.5896180	9.5740131	9.5580554	4026.081	3887.030	3749.844	3614.560	19
18	9.6046308	9.5893608	9.5737502	9.5577864	4023.749	3884.728	3747.574	3612.322	18
17	9.6043790	9.5891034	9.5734870	9.5575173	4021.417	3882.427	3745.304	3610.084	17
16	9.6041272	9.5888460	9.5732218	9.5572481	4019.085	3880.127	3743.034	3607.847	16
15	9.6038752	9.5885884	9.5729604	9.5569787	4016.754	3877.827	3740.765	3605.610	15
14	9.6036232	9.5883308	9.5726970	9.5567093	4014.423	3875.527	3738.497	3603.374	14
13	9.6033710	9.5880730	9.5724335	9.5564397	4012.093	3873.228	3736.229	3601.138	13
12	9.6031188	9.5878153	9.5721699	9.5561701	4009.763	3870.932	3733.962	3598.903	12
11	9.6028664	9.5875573	9.5719061	9.5559004	4007.434	3868.631	3731.695	3596.668	11
10	9.6026143	9.5872993	9.5716423	9.5556306	4005.106	3866.333	3729.428	3594.434	10
9	9.6023615	9.5870412	9.5713784	9.5553606	4002.778	3864.035	3727.162	3592.201	9
8	9.6021090	9.5867830	9.5711144	9.5550906	4000.451	3861.739	3724.897	3589.968	8
7	9.6018562	9.5865247	9.5708502	9.5548204	3998.124	3859.443	3722.633	3587.736	7
6	9.6016035	9.5862663	9.5705861	9.5545502	3995.798	3857.147	3720.366	3585.502	6
5	9.6013506	9.5860078	9.5703217	9.5542798	3993.472	3854.852	3718.105	3583.274	5
4	9.6010976	9.5857492	9.5700573	9.5540094	3991.147	3852.558	3715.842	3581.041	4
3	9.6008446	9.5854905	9.5697928	9.5537388	3988.822	3850.264	3713.580	3578.811	3
2	9.6005914	9.5852318	9.5695282	9.5534681	3986.498	3847.970	3711.318	3576.581	2
1	9.6003382	9.5849728	9.5692635	9.5531973	3984.174	3845.677	3709.057	3574.352	1
0	9.6000849	9.5847139	9.5689987	9.5529265	3981.850	3843.385	3706.796	3572.124	0

Deg 40, 41, 42, 43.

A Table of Natural Verted

M	N. 40	N. 41	N. 42	N. 43	L. 40	L. 41	L. 42	L. 43	
0	2339.556	2452.904	2568.552	2686.463	9.3691334	9.3896806	9.4096883	9.4291808	0
1	2341.426	2454.813	2570.498	2688.447	9.3694803	9.3900183	9.4100173	9.4295015	1
2	2343.296	2456.722	2572.446	2690.432	9.3698272	9.3903561	9.4103402	9.4298220	2
3	2345.168	2458.632	2574.394	2692.417	9.3701739	9.3906935	9.4106749	9.4301424	3
4	2347.040	2460.543	2576.342	2694.401	9.3705205	9.3910309	9.4110036	9.4304626	4
5	2348.913	2462.454	2578.292	2696.390	9.3708668	9.3913681	9.4113320	9.4307827	5
6	2350.786	2464.366	2580.242	2698.377	9.3712111	9.3917052	9.4116603	9.4311026	6
7	2352.660	2466.279	2582.193	2700.365	9.3715591	9.3920421	9.4119885	9.4314224	7
8	2354.535	2468.192	2584.143	2702.354	9.3719051	9.3923785	9.4123166	9.4317423	8
9	2356.410	2470.106	2586.095	2704.343	9.3722508	9.3927155	9.4126444	9.4320617	9
10	2358.286	2472.020	2588.047	2706.332	9.3725964	9.3930520	9.4129722	9.4323811	10
11	2360.162	2473.935	2590.000	2708.323	9.3729418	9.3933882	9.4132998	9.4327004	11
12	2362.040	2475.851	2591.954	2710.314	9.3732872	9.3937245	9.4136273	9.4330195	12
13	2363.918	2477.767	2593.908	2712.305	9.3736323	9.3940606	9.4139546	9.4333385	13
14	2365.796	2479.684	2595.863	2714.297	9.3739773	9.3943964	9.4142818	9.4336574	14
15	2367.675	2481.602	2597.819	2716.290	9.3743221	9.3947310	9.4146088	9.4339761	15
16	2369.555	2483.520	2599.775	2718.284	9.3746668	9.3950677	9.4149357	9.4342948	16
17	2371.436	2485.439	2601.732	2720.278	9.3750113	9.3954031	9.4152625	9.4346132	17
18	2373.317	2487.359	2603.689	2722.272	9.3753557	9.3957384	9.4155891	9.4349316	18
19	2375.198	2489.279	2605.647	2724.268	9.3756998	9.3960735	9.4159155	9.4352497	19
20	2377.081	2491.200	2607.606	2726.264	9.3760440	9.3964085	9.4162419	9.4355678	20
21	2378.964	2493.121	2609.565	2728.260	9.3763878	9.3967433	9.4165681	9.4358857	21
22	2380.848	2495.043	2611.525	2730.257	9.3767316	9.3970781	9.4168941	9.4362035	22
23	2382.732	2496.966	2613.485	2732.255	9.3770751	9.3974125	9.4172199	9.4365212	23
24	2384.617	2498.889	2615.447	2734.253	9.3774186	9.3977470	9.4175458	9.4368387	24
25	2386.503	2500.813	2617.408	2736.252	9.3777618	9.3980812	9.4178715	9.4371561	25
26	2388.388	2502.738	2619.371	2738.252	9.3781050	9.3984154	9.4181970	9.4374734	26
27	2390.276	2504.663	2621.334	2740.252	9.3784479	9.3987493	9.4185223	9.4377907	27
28	2392.163	2506.589	2623.297	2742.253	9.3787908	9.3990831	9.4188475	9.4381075	28
29	2394.051	2508.516	2625.262	2744.254	9.3791334	9.3994167	9.4191726	9.4384243	29
30	2395.940	2510.443	2627.227	2746.256	9.3794760	9.3997505	9.4194975	9.4387410	30
31	2397.830	2512.371	2629.192	2748.259	9.3798183	9.4000836	9.4198223	9.4390576	31
32	2399.720	2514.299	2631.158	2750.262	9.3801606	9.4004169	9.4201470	9.4393741	32
33	2401.611	2516.228	2633.125	2752.266	9.3805025	9.4007499	9.4204714	9.4396904	33
34	2403.502	2518.158	2635.092	2754.271	9.3808445	9.4010829	9.4207958	9.4400066	34
35	2405.394	2520.088	2637.060	2756.276	9.3811862	9.4014157	9.4211201	9.4403226	35
36	2407.287	2522.019	2639.025	2758.281	9.3815279	9.4017484	9.4214442	9.4406385	36
37	2409.180	2523.951	2640.998	2760.288	9.3818692	9.4020808	9.4217681	9.4409543	37
38	2411.074	2525.883	2642.968	2762.295	9.3822106	9.4024132	9.4220919	9.4412700	38
39	2412.969	2527.816	2644.939	2764.302	9.3825516	9.4027453	9.4224150	9.4415855	39
40	2414.864	2529.749	2646.910	2766.310	9.3828927	9.4030775	9.4227391	9.4419009	40
41	2416.760	2531.683	2648.882	2768.319	9.3832335	9.4034093	9.4230625	9.4422161	41
42	2418.657	2533.618	2650.854	2770.329	9.3835742	9.4037417	9.4233858	9.4425313	42
43	2420.554	2535.554	2652.827	2772.339	9.3839147	9.4040727	9.4237089	9.4428462	43
44	2422.452	2537.490	2654.801	2774.349	9.3842551	9.4044043	9.4240319	9.4431611	44
45	2424.350	2539.426	2656.775	2776.360	9.3845953	9.4047355	9.4243547	9.4434758	45
46	2426.249	2541.364	2658.750	2778.372	9.3849354	9.4050668	9.4246774	9.4437904	46
47	2428.149	2543.301	2660.725	2780.385	9.3852753	9.4053978	9.4250000	9.4441048	47
48	2430.049	2545.240	2662.701	2782.398	9.3856151	9.4057287	9.4253224	9.4444192	48
49	2431.950	2547.179	2664.678	2784.411	9.3859547	9.4060594	9.4256447	9.4447334	49
50	2433.852	2549.119	2666.655	2786.426	9.3862942	9.4063901	9.4259669	9.4450474	50
51	2435.754	2551.059	2668.633	2788.441	9.3866334	9.4067205	9.4262889	9.4453614	51
52	2437.657	2553.000	2670.612	2790.456	9.3869727	9.4070509	9.4266108	9.4456752	52
53	2439.561	2554.942	2672.591	2792.472	9.3873116	9.4073810	9.4269325	9.4459888	53
54	2441.465	2556.885	2674.571	2794.488	9.3876506	9.4077111	9.4272541	9.4463024	54
55	2443.370	2558.827	2676.551	2796.506	9.3879892	9.4080409	9.4275755	9.4466157	55
56	2445.276	2560.771	2678.533	2798.524	9.3883278	9.4083708	9.4278969	9.4469290	56
57	2447.182	2562.715	2680.514	2800.543	9.3886662	9.4087003	9.4282181	9.4472422	57
58	2449.089	2564.660	2682.497	2802.562	9.3890045	9.4090298	9.4285391	9.4475552	58
59	2450.996	2566.606	2684.479	2804.582	9.3893425	9.4093591	9.4288600	9.4478680	59
60	2452.904	2568.552	2686.463	2806.602	9.3896806	9.4096883	9.4291808	9.4481808	60

Sines, and their Logarithms.

Deg. 49, 48, 47, 46.

L. 49	L. 48	L. 47	L. 46	N. 49	N. 48	N. 47	N. 46	M
60	9.552265	9.5364839	9.5196566	9.5024293	3572.124	3439.410	3303.694	3180.010
59	9.5526555	9.5362066	9.5193727	9.5021388	3569.896	3437.215	3306.532	3177.889
58	9.5523845	9.5359293	9.5190889	9.5018480	3567.669	3435.021	3304.371	3175.763
57	9.5521132	9.5356518	9.5188048	9.5015572	3565.442	3432.827	3302.211	3173.637
56	9.5518420	9.5353742	9.5185207	9.5012662	3563.215	3430.633	3300.051	3171.511
55	9.5515706	9.5350965	9.5182364	9.5009751	3560.989	3428.440	3297.892	3169.387
54	9.5512992	9.5348187	9.5179521	9.5006840	3558.764	3426.247	3295.733	3167.262
53	9.5510275	9.5345408	9.5176676	9.5003927	3556.539	3424.055	3293.573	3165.139
52	9.5507559	9.5342628	9.5173830	9.5001013	3554.315	3421.864	3291.418	3163.016
51	9.5504840	9.5339846	9.5170984	9.4998097	3552.091	3419.674	3289.261	3160.873
50	9.5502122	9.5337065	9.5168136	9.4995181	3549.868	3417.484	3287.105	3158.791
49	9.5499401	9.5334281	9.5165286	9.4992263	3547.645	3415.295	3284.949	3156.650
48	9.5496681	9.5331497	9.5162436	9.4989345	3545.423	3413.106	3282.794	3154.529
47	9.5493958	9.5328711	9.5159585	9.4986425	3543.201	3410.918	3280.639	3152.409
46	9.5491236	9.5325925	9.5156732	9.4983504	3540.980	3408.730	3278.485	3150.289
45	9.5488511	9.5323137	9.5153879	9.4980581	3538.760	3406.542	3276.332	3148.170
44	9.5485786	9.5320349	9.5151024	9.4977658	3536.540	3404.355	3274.179	3146.052
43	9.5483059	9.5317558	9.5148168	9.4974733	3534.321	3402.169	3272.027	3143.934
42	9.5480333	9.5314768	9.5145311	9.4971808	3532.102	3399.984	3269.875	3141.816
41	9.5477604	9.5311975	9.5142453	9.4968881	3529.884	3397.799	3267.724	3139.700
40	9.5474875	9.5309183	9.5139594	9.4965953	3527.667	3395.614	3265.573	3137.584
39	9.5472144	9.5306388	9.5136733	9.4963023	3525.450	3393.430	3263.423	3135.468
38	9.5469413	9.5303593	9.5133872	9.4960093	3523.234	3391.247	3261.274	3133.353
37	9.5466680	9.5300797	9.5131009	9.4957161	3521.018	3389.064	3259.125	3131.239
36	9.5463947	9.5298000	9.5128146	9.4954229	3518.802	3386.882	3256.976	3129.124
35	9.5461212	9.5295201	9.5125280	9.4951295	3516.587	3384.700	3254.828	3127.012
34	9.5458477	9.5292402	9.5122415	9.4948360	3514.372	3382.519	3252.681	3124.899
33	9.5455740	9.5289601	9.5119547	9.4945424	3512.158	3380.338	3250.535	3122.787
32	9.5453002	9.5286799	9.5116679	9.4942486	3509.945	3378.159	3248.389	3120.675
31	9.5450263	9.5283995	9.5113810	9.4939547	3507.732	3375.979	3246.243	3118.565
30	9.5447524	9.5281195	9.5110939	9.4936607	3505.520	3373.800	3244.098	3116.454
29	9.5444783	9.5278388	9.5108068	9.4933666	3503.308	3371.621	3241.954	3114.345
28	9.5442041	9.5275581	9.5105195	9.4930724	3501.097	3369.443	3239.810	3112.236
27	9.5439298	9.5272774	9.5102321	9.4927780	3498.886	3367.266	3237.667	3110.127
26	9.5436554	9.5269966	9.5099446	9.4924836	3496.676	3365.089	3235.524	3108.019
25	9.5433809	9.5267156	9.5096569	9.4921890	3494.467	3362.913	3233.382	3105.911
24	9.5431063	9.5264346	9.5093692	9.4918944	3492.258	3360.737	3231.240	3103.805
23	9.5428315	9.5261534	9.5090813	9.4915995	3490.050	3358.562	3229.099	3101.698
22	9.5425566	9.5258722	9.5087934	9.4913046	3487.842	3356.388	3226.959	3099.593
21	9.5422818	9.5255908	9.5085053	9.4910095	3485.635	3354.214	3224.819	3097.488
20	9.5420068	9.5253094	9.5082172	9.4907144	3483.428	3352.041	3222.680	3095.383
19	9.5417316	9.5250277	9.5079288	9.4904191	3481.222	3349.868	3220.541	3093.279
18	9.5414564	9.5247461	9.5076404	9.4901237	3479.016	3347.696	3218.403	3091.176
17	9.5411810	9.5244642	9.5073519	9.4898281	3476.811	3345.524	3216.266	3089.073
16	9.5409056	9.5241823	9.5070633	9.4895325	3474.606	3343.353	3214.129	3086.971
15	9.5406300	9.5239002	9.5067745	9.4892361	3472.402	3341.183	3211.993	3084.869
14	9.5403544	9.5236182	9.5064856	9.4889400	3470.199	3339.013	3209.857	3082.768
13	9.5400786	9.5233358	9.5061966	9.4886448	3467.996	3336.844	3207.722	3080.668
12	9.5398027	9.5230535	9.5059075	9.4883488	3465.794	3334.675	3205.587	3078.568
11	9.5395267	9.5227710	9.5056183	9.4880525	3463.592	3332.507	3203.453	3076.469
10	9.5392507	9.5224885	9.5053290	9.4877562	3461.391	3330.339	3201.319	3074.370
9	9.5389744	9.5222057	9.5050395	9.4874597	3459.191	3328.172	3199.187	3072.272
8	9.5386982	9.5219230	9.5047500	9.4871631	3456.991	3326.006	3197.054	3070.175
7	9.5384217	9.5216400	9.5044603	9.4868663	3454.792	3323.840	3194.922	3068.078
6	9.5381452	9.5213570	9.5041705	9.4865696	3452.593	3321.674	3192.791	3065.982
5	9.5378686	9.5210739	9.5038806	9.4862726	3450.394	3319.509	3190.661	3063.886
4	9.5375919	9.5207907	9.5035906	9.4859755	3448.196	3317.345	3188.531	3061.791
3	9.5373150	9.5205073	9.5033005	9.4856783	3445.999	3315.182	3186.401	3059.696
2	9.5370381	9.5202239	9.5030104	9.4853810	3443.802	3313.019	3184.272	3057.602
1	9.5367610	9.5199402	9.5027195	9.4850835	3441.606	3310.856	3182.144	3055.509
0	9.5364839	9.5196566	9.5024293	9.4847860	3439.410	3308.694	3180.016	3053.416

M. N. 44	N. 45	L. 44	L. 45	L. 45	L. 44	N. 45	N. 44
0 2806.602	2928.931	9.4481808	9.4667093	9.4847860	9.4657993	3053.116	2928.931
1 2808.623	2930.959	9.4481934	9.4670142	9.4844083	9.4664044	3051.324	2926.876
2 2810.645	2933.047	9.4488 55	9.4673190	9.4841905	9.4660391	3048.233	2924.820
3 2812.667	2935.106	9.4491182	9.4676237	9.4838926	9.4657937	3047.142	2922.765
4 2814.690	2937.165	9.4493305	9.4679283	9.4835949	9.4654883	3045.051	2920.709
5 2816.713	2939.224	9.44974 6	9.4682326	9.4832964	9.4651828	3042.961	2918.655
6 2818.737	2941.284	9.4500546	9.4685370	9.4829981	9.4648771	3040.872	2916.602
7 2820.762	2943.345	9.4503661	9.4688411	9.4826997	9.4645713	3038.783	2914.549
8 2822.787	2945.406	9.4506781	9.4691452	9.4824012	9.4642654	3036.695	2912.496
9 2824.813	2947.468	9.4509896	9.4694491	9.4821025	9.4639593	3034.608	2910.444
10 2826.839	2949.531	9.4513011	9.4697530	9.4818038	9.4636531	3032.521	2908.393
11 2828.866	2951.594	9.4516123	9.4700566	9.4815049	9.4633468	3030.435	2906.343
12 2830.894	2953.658	9.4519236	9.4703602	9.4812059	9.4630401	3028.349	2904.293
13 2832.922	2955.722	9.4522347	9.4706636	9.4809067	9.4627338	3026.264	2902.243
14 2834.951	2957.787	9.4525456	9.4709664	9.4806075	9.4624271	3024.179	2900.192
15 2836.981	2959.853	9.4528563	9.4712700	9.4803081	9.4621202	3022.095	2898.140
16 2839.011	2961.919	9.4531670	9.4715732	9.4800087	9.4618133	3020.012	2896.089
17 2841.041	2963.986	9.4534775	9.4718760	9.4797099	9.4615062	3017.929	2894.032
18 2843.073	2966.053	9.4537879	9.4721789	9.4794093	9.4611991	3015.847	2892.054
19 2845.105	2968.121	9.4540982	9.4724815	9.4791094	9.4608917	3013.766	2889.994
20 2847.137	2970.189	9.4544081	9.4727841	9.4788095	9.4605843	3011.685	2887.914
21 2849.170	2972.256	9.4547184	9.4730865	9.4785093	9.4602767	3009.604	2885.877
22 2851.204	2974.328	9.4550283	9.4733889	9.4782091	9.4599690	3007.524	2883.826
23 2853.238	2976.399	9.4553380	9.4736910	9.4779088	9.4596611	3005.445	2881.781
24 2855.272	2978.469	9.4556476	9.4739931	9.4776083	9.4593532	3003.367	2879.740
25 2857.309	2980.541	9.4559571	9.4742951	9.4773077	9.4590451	3001.289	2877.697
26 2859.345	2982.612	9.4562665	9.4745969	9.4770070	9.4587369	2999.211	2875.650
27 2861.382	2984.686	9.4565758	9.4748985	9.4767062	9.4584285	2997.134	2873.615
28 2863.419	2986.759	9.4568849	9.4752002	9.4764052	9.4581201	2995.057	2871.574
29 2865.457	2988.833	9.4571938	9.4755016	9.4761041	9.4578114	2992.982	2869.535
30 2867.496	2990.907	9.4575027	9.4758029	9.4758029	9.4575027	2990.907	2867.496

The End of the Table of Verfed Sines, &c.

A TABLE of Difference of Latitude and Departure to every Degree and Quarter-Point of the Compass, for the exact Working of a Traverse when the distance Run exceeds not (the Radius) 10000

Diff.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Diff.
	1. D.	89.D.	2. D.	88.D.	3. D.	87.D.	4. D.	86.D.	
1	0.9998	0.0175	0.9997	0.0345	0.9996	0.0523	0.9995	0.0698	
2	1.9997	0.0345	1.9996	0.0698	1.9995	0.1047	1.9994	0.1395	
3	2.9995	0.0524	2.9994	0.1047	2.9993	0.1570	2.9992	0.2093	
4	3.9994	0.0698	3.9993	0.1366	3.9992	0.2093	3.9991	0.2790	
5	4.9992	0.0973	4.9991	0.1745	4.9990	0.2617	4.9989	0.3488	
6	5.9991	0.1047	5.9990	0.2093	5.9989	0.3140	5.9988	0.4185	
7	6.9989	0.1222	6.9988	0.2443	6.9987	0.3664	6.9986	0.4883	
8	7.9988	0.1396	7.9987	0.2792	7.9986	0.4187	7.9985	0.5580	
9	8.9986	0.1571	8.9985	0.3141	8.9984	0.4710	8.9983	0.6278	
87 Dec. 11 m. 15 f.									
	5. D.	85.D	6. D.	84.D.	7. D.	83.D.	8. D.	82.D.	
1	0.9992	0.0872	0.9991	0.0990	0.9990	0.1219	0.9989	0.1392	
2	1.9994	0.1742	1.9993	0.1560	1.9992	0.2437	1.9991	0.2783	
3	2.9986	0.2515	2.9985	0.2940	2.9984	0.3556	2.9983	0.4175	
4	3.9848	0.3480	3.9807	0.3921	3.9702	0.4875	3.9611	0.5567	
5	4.9910	0.4358	4.9759	0.4901	4.9627	0.6093	4.9513	0.6959	
6	5.9772	0.5225	5.9711	0.5881	5.9553	0.7312	5.9416	0.8350	
7	6.9734	0.6101	6.9663	0.6861	6.9478	0.8531	6.9319	0.9742	
8	7.9696	0.6972	7.9615	0.7841	7.9404	0.9750	7.9221	1.1134	
9	8.9658	0.7844	8.9567	0.8822	8.9329	1.0968	8.9124	1.2526	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

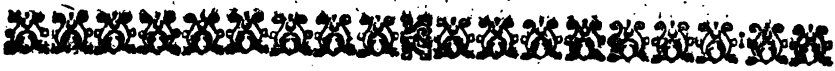
A Table of Difference of Latitude and Departur to every Degtee, &c.

Lat. Dep.		Lat. Dep.		Lat. Dep.		Lat. Dep.		Lat. Dep.		Lat. Dep.	
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0 p 3/4	7 p 1/4	9. D.	3 D.	10. D.	30. D.	11. D.	75. D.	1 p	7 p		
0.6832	0.1467	0.9877	0.1504	0.5818	0.1736	0.9816	0.1908	0.9808	0.1951		
1.9784	0.2935	1.9754	0.3125	1.9696	0.3473	1.9633	0.3816	1.9616	0.3902		
2.9675	0.4402	2.9631	0.4693	2.9544	0.5209	2.9449	0.5721	2.9424	0.5853		
3.9567	0.5869	3.9508	0.6257	3.9392	0.6946	3.9265	0.7532	3.9231	0.7804		
4.9459	0.7337	4.9384	0.7822	4.9240	0.8682	4.9081	0.9540	4.9035	0.9754		
5.9311	0.8804	5.9251	0.9386	5.9088	1.0419	5.8838	1.1449	5.8847	1.1705		
6.9242	1.0271	6.9138	1.0950	6.8937	1.2155	6.8714	1.3357	6.8655	1.3656		
7.9134	1.1738	7.9015	1.2515	7.8785	1.3892	7.8530	1.5265	7.8463	1.5507		
8.9026	1.3206	8.8892	1.4079	8.8633	1.5628	8.8346	1.7173	8.8271	1.7558		
12. D.	78. D.	13. D.	77. D.	14. D.	76. D.	1 p 1/4	6 p 3/4	15. D.	75. D.		
0.9781	0.2079	0.9744	0.2250	0.9703	0.2419	0.9700	0.2430	0.9659	0.2588		
1.9563	0.4158	1.9487	0.4499	1.9406	0.4838	1.9401	0.4860	1.9319	0.5176		
2.9344	0.6237	2.9231	0.6749	2.9108	0.7158	2.9101	0.7289	2.8979	0.7765		
3.9126	0.8316	3.8975	0.8995	3.8812	0.9577	3.8801	0.9719	3.8637	1.0353		
4.8907	1.0396	4.8718	1.1248	4.8515	1.2090	4.8502	1.2149	4.8296	1.2941		
5.8689	1.2475	5.8462	1.3497	5.8218	1.4951	5.8202	1.4579	5.7956	1.5529		
6.8470	1.4554	6.8206	1.5746	6.7921	1.6935	6.7902	1.7009	6.7615	1.8117		
7.8252	1.6633	7.7950	1.7996	7.7624	1.9354	7.7602	1.9438	7.7274	2.0706		
8.8033	1.8712	8.7673	2.0246	8.7327	2.1775	8.7303	2.1868	8.6933	2.2994		
16. D.	74 D.	1 p 1/2	6 p 1/2	17. D.	73. D.	18. D.	72. D.	19. D.	71. D.		
0.9613	0.2756	0.9569	0.2903	0.9533	0.2924	0.9511	0.3090	0.9455	0.3256		
1.9225	0.5511	1.9139	0.5805	1.9126	0.5847	1.9021	0.6180	1.8910	0.6511		
2.8838	0.8269	2.8708	0.8729	2.8688	0.8771	2.8532	0.9271	2.8366	0.9767		
3.8450	1.1025	3.8278	1.1611	3.8252	1.1695	3.8042	1.2361	3.7821	1.3023		
4.8063	1.3782	4.7847	1.4514	4.7815	1.4619	4.7553	1.5451	4.7276	1.6278		
5.7676	1.6538	5.7416	1.7117	5.7378	1.7542	5.7063	1.8541	5.6731	1.9534		
6.7288	1.9295	6.6986	2.0320	6.6941	2.0465	6.6574	2.1631	6.6186	2.2750		
7.6901	2.2051	7.6555	2.3223	7.6544	2.3190	7.6094	2.4721	7.5642	2.6045		</

A Table of Difference of Latitude and Departure to every Degree &c.

Diff.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Diff.
	27.D.	63.D.	28.D.	62.D.	29.D.	61.D.	30.D.	60.D.			
1	0.8910	0.4540	0.8829	0.4695	0.8746	0.4848	0.8660	0.5000			1
2	1.7820	0.9080	1.7659	0.9389	1.7492	0.9696	1.7320	1.0000			2
3	2.6730	1.3620	2.6488	1.4084	2.6239	1.4544	2.5981	1.5000			3
4	3.5640	1.8160	3.5318	1.8779	3.4985	1.9392	3.4641	2.0000			4
5	4.4550	2.2699	4.4147	2.3474	4.4096	2.3570	4.3731	2.5000			5
6	5.3460	2.7239	5.2977	2.8168	5.2915	2.8284	5.2477	3.0000			6
7	6.2370	3.1779	6.1806	3.2863	6.1734	3.2998	6.1223	3.5000			7
8	7.1280	3.6319	7.0636	3.7558	7.0554	3.7712	6.9970	4.0000			8
9	8.0191	4.0859	7.9465	4.2252	7.9373	4.2426	7.8716	4.5000			9
	2 p 3/4	p 5 1/4	31.D.	59.D.	32.D.	58.D.	33.D.	57.D.	3 p	5 p	
1	0.8577	0.5141	0.8572	0.5150	0.8480	0.5299	0.8387	0.5446	0.8315	0.5556	1
2	1.7155	1.0282	1.7143	1.0301	1.6961	1.0598	1.6773	1.0893	1.6629	1.1111	2
3	2.5732	1.5423	2.5715	1.5451	2.5441	1.5896	2.5160	1.6339	2.4944	1.6667	3
4	3.4309	2.0564	3.4287	2.0602	3.3922	2.1197	3.3547	2.1786	3.3259	2.2223	4
5	4.2886	2.5705	4.2858	2.5752	4.2402	2.6496	4.1934	2.7232	4.1573	2.7778	5
6	5.1463	3.0846	5.1430	3.0902	5.0883	3.1795	5.0320	3.2678	4.9888	3.3334	6
7	6.0041	3.5987	6.0002	3.6052	5.9363	3.7094	5.8707	3.8125	5.8203	3.8890	7
8	6.8618	4.1128	6.8573	4.1203	6.7843	4.2394	6.7094	4.3571	6.6518	4.4446	8
9	7.7195	4.6269	7.7145	4.6353	7.6324	4.7693	7.5480	4.9018	7.4832	5.0001	9
	34.D.	56.D.	35.D.	55.D.	36.D.	54.D.	37.D.	53.D.			
1	0.8290	0.5592	0.8192	0.5736	0.8090	0.5878	0.8032	0.5957	0.7986	0.6018	1
2	1.6581	1.1184	1.6383	1.1472	1.6180	1.1756	1.6064	1.1914	1.5973	1.2036	2
3	2.4871	1.6776	2.4575	1.7207	2.4271	1.7634	2.4096	1.7871	2.3959	1.8054	3
4	3.3162	2.2368	3.2766	2.2943	3.2361	2.3511	3.2128	2.3828	3.1945	2.4073	4
5	4.1452	2.7960	4.0958	2.8679	4.0451	2.9389	4.0160	2.9785	3.9933	3.0091	5
6	4.9742	3.3552	4.9149	3.4415	4.8541	3.5267	4.8192	3.5742	4.7918	3.6109	6
7	5.8033	3.9144	5.7341	4.0150	5.6631	4.1145	5.6224	4.1699	5.5904	4.2127	7
8	6.6323	4.4735	6.5532	4.5886	6.4721	4.7023	6.4257	4.7656	6.3891	4.8145	8
9	7.4613	5.0327	7.3724	5.1622	7.2812	5.2901	7.2289	5.3613	7.1877	5.4163	9
	38.D.	52.D.	39.D.	51.D.	40.D.	50.D.	41.D.	49.D.			
1	0.7880	0.6157	0.7771	0.6293	0.7730	0.6344	0.7660	0.6428	0.7547	0.6561	1
2	1.5760	1.2313	1.5543	1.2586	1.5460	1.2688	1.5321	1.2856	1.5094	1.3121	2
3	2.3640	1.8470	2.3314	1.8880	2.3190	1.9032	2.2981	1.9284	2.2641	1.9683	3
4	3.1520	2.4626	3.1086	2.5173	3.0920	2.5376	3.0642	2.5712	3.0188	2.6242	4
5	3.9401	3.0783	3.8857	3.1466	3.8650	3.1720	3.8302	3.2139	3.7736	3.2803	5
6	4.7281	3.6940	4.6629	3.7759	4.6381	3.8064	4.5963	3.8567	4.5523	3.9363	6
7	5.5161	4.3096	5.4400	4.4052	5.4111	4.4408	5.3623	4.4995	5.2830	4.5924	7
8	6.3041	4.9253	6.2172	5.0346	6.1841	5.0751	6.1284	5.1423	6.0377	5.2485	8
9	7.0921	5.5409	6.9943	5.6639	6.9571	5.7095	6.8944	5.7851	6.7924	5.9045	9
	42.D.	48.D.	43.D.	47.D.	44.D.	46.D.	45.D.	45.D.			
1	0.7431	0.6691	0.7410	0.6716	0.7314	0.6820	0.7193	0.6947	0.7071	0.7071	1
2	1.4863	1.3383	1.4819	1.3431	1.4628	1.3640	1.4387	1.3894	1.4147	1.4142	2
3	2.2294	2.0074	2.2229	2.0147	2.1941	2.0460	2.1580	2.0840	2.1213	2.1213	3
4	2.9726	2.6765	2.9638	2.6862	2.9254	2.7280	2.8774	2.7786	2.8284	2.8284	4
5	3.7157	3.3457	3.7048	3.3578	3.6566	3.4100	3.5967	3.4733	3.5355	3.5355	5
6	4.4589	4.0148	4.4457	4.0294	4.3881	4.0920	4.3160	4.1679	4.2426	4.2426	6
7	5.2020	4.6839	5.1867	4.7009	5.1195	4.7740	5.0354	4.8626	4.9437	4.9437	7
8	5.9452	5.3530	5.9276	5.3725	5.8508	5.4560	5.7547	5.5573	5.6569	5.6569	8
9	6.6883	6.0222	6.6686	6.0440	6.5822	6.1380	6.4741	6.2519	6.3640	6.3640	9
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

The END of the TABLES.



SOME USES

Of the Preceding

T A B L E S.

C H A P. I.

Of Decimal Fractions.

THE Table of Logarithms being of general Use in all parts of the *Mathematicks*, cannot well be apply'd without some Knowledge of Decimal Fractions; which, of all Fractions, are most Natural, whole Numbers being nothing else in effect: So that *Arithmetick* in whole Numbers being understood, the Use of Decimal Fractions is very easily learnt.

I. That the Nature of a Decimal Fraction may be conceived, imagine a Foot Rule (or any other Measure) to be divided into 10 equal parts, each division will be $\frac{1}{10}$; then imagine every of those Tenths to be divided into 10 equal parts, then the Foot (or other measure) will be divided into 100 equal parts, every first Division will be $\frac{1}{100}$, or $\frac{1}{10 \times 10}$; and every second Division, in respect to the whole, will be $\frac{1}{1000}$; so that if 3 tenths and a half were to be express'd, it's $\frac{3}{10} + \frac{1}{200}$. By this means, an Hour, a Fathom, a Pound, a Shilling, &c. may be divided into 10, 100, 1000, 10000, &c. equal parts, at pleasure.

II. A Decimal Fraction hath always for its Denominator an Unite with Cyphers, viz. 10, 100, 1000, 10000, &c. and seeing the use of a Denominator in a Fraction is to shew into how many parts an Unite is divided, it may be quite omitted, and yet known by this Rule, viz. the Denominator of a Decimal Fraction is an Unite, with so many Cyphers as there are places in the Numerator, and is known from whole Numbers by a point prefixed, thus: 2 is $\frac{2}{10}$; .34 is $\frac{34}{100}$; .567 is $\frac{567}{1000}$; .0089 is $\frac{89}{10000}$, &c. Observe the same of mixt Numbers; for 678.9 is $678\frac{9}{10}$, 67.89 is $67\frac{89}{100}$, &c.

Q q

III. Cypher

Of Decimal Fractions

III. Cyphers at the right hand of a Decimal Fraction alter not the Value; for .5 is $\frac{1}{2}$, .50 is $\frac{1}{20}$, .50000 is $\frac{1}{20000}$, and each of them is one half.

IV. Therefore Decimal Fractions are easily reduced to a common Denominator, by making all their Numerators to consist of the same Number of places; so .3 .45 .067 .0089, may be writ thus .3000 .4500 .0670 .0989; all which consisting of four places, their common Denominator is an Unite, and four Cyphers, viz. 10000

V. Addition and Subtraction are the same as in whole Numbers, the places of the same Denomination being set one under another, it will be a good Guide to place Point under Point: See three Examples of each.

Addition-			Subtraction-		
.3	1.5	121.5	9.75	6.5	89
.45	.5625	45.5605	8.5	3.75	73.497
.06789	.9375	75.9375			
81789	3.0000	242.9980	1.25	2.75	15.503

VI. In Multiplication, work as in whole Numbers, and from the Product separate with a point so many places to the right hand as there are decimal places both in the Multiplicand and Multiplier, then all the places upon the left hand of the point are whole Numbers, and on the right a decimal Fraction.

VII. If there be not so many places in the Product, as ought to be separated by the preceding Rule, then place Cyphers at the left to compleat the Number, as may be seen in the Sixth and Seventh Examples.

Ex. 1) 56 2.13 1368 456 212 9712.8	Ex. 2) 45.6 21.3 971.28 Ex. 3) 456 213 97.128	Ex. 4) 45.0 213 9.7128 Ex. 5) .456 213 .97128	Ex. 6) .456 213 .097128 Ex. 7) .0456 213 .0097128
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VIII. In Division, work as in whole Numbers, and from the Quotient separate with a point so many places to the right hand (for a decimal Fraction) as there are decimal places in the Dividend more than in the Divisor; for there must be so many decimal places in the Divisor and Quotient, as are in the Dividend

IX, Another

IX. Another method of finding the Value of the Quotient before the Division begin, *viz.* Set the Divisor under the Dividend, then will the Unit's place in the Divisor stand under such a place in the Dividend, as is at the same distance from Unity with the first significant Figures of the Quotient, as in the Examples first and last: *First*, Here 5, the Unit's place in the Divisor, stands under 8 the third Figure above Unity in the Dividend; denoting, that 3, the first Figure of the Quotient, is of the same Value, and that here are three Integers and two Decimals in the Quote: In the *last*, the Cypher preceding 6 in the Divisor, which is the place of Unity, rests under 2 in the Dividend; shewing, that 3 in the Quotient shall be of the same value, *viz.* two places below Unity.

X. Therefore, if the Divisor be a whole Number, the Quotient will have the same number of decimal places as the Dividend, as *Ex. 1.* If the Dividend consists of six decimal places, and the Divisor but of two, there will be four decimal places in the Quotient, as *Ex. 3.*

XI. If there be more decimal places in the Dividend, than are in the Divisor and Quotient, place Cyphers at the left hand of the Quotient, to compleat the Number. See the 5th Example, where one Cypher is prefixed.

XII. Annex what number of Cyphers you please to the right hand of the Dividend, putting a point where the Fraction begins. (See Rule 3.) But if the Dividend be made to have three decimal places more than in the Divisor, there will be three decimal places in the Quotient, which in most cases is sufficient, except it is to be multiply'd afterwards.

XIII. Vulgar Fractions are reduced to Decimals of the same value, by dividing the Numerator by the Denominator.

Example, What is the Decimal of $9\frac{1}{4}$? (*viz.* $2\frac{1}{4}$ of 1 *lib.*) see the Work 240) 9.0000 (.0375,

Decimals being well understood, will make the following Uses of Logarithms very easy.

C H A P. II.

Of finding the Logarithm to any Number, or the Number to any Logarithm, explain'd in the following Propositions.

I. *To find the Logarithm of a whole Number, under 1000.*

IN the four first Pages of the Table, are placed all absolute Numbers from 1 to 999, in their natural Order, and against every Number its Logarithm; so the Log. of 43 is 1.6334685.

Note. The Index, or Characteristick of the Logarithm of every Number, from 100 to 999 being 2, it is placed over each Column of Logarithms, and are to be prefix'd to every Logarithm in the same Column; so the Log. of 430 is 2.6334685, and the Log. of 999 is 2.9995655, so of the rest.

II. *To find the Logarithm of any Number, that consists of four Places.*

Find the Number propounded in the first Column (of the Table) intitled *Num.* against which in the second Column (signed at the Head *o*) is found the Log. sought, when 3 (the proper Index of all absolute Numbers consisting of four places) is prefix'd; as may be seen in the adjoining Examples.

III. *To find the Logarithm of any Number, that consists of five places.*

Find the four first Figures of the Number given by the last Prop. and against it in the next Column are the three first Figures of the Log. sought, which note in your Paper; then seek the last Figure of the Number given amongst the Figures at the head of the Table, and in the common meeting of these two lines, are the four last Figures of the Log. sought, which must be annexed to the three before found, (before which a proper Index being prefix'd) is the Log. sought. *Example,* 54237 being given, I find 5423 (the four first Figures) in the first Column, against which in the next Column the three common Figures are 734; and the last Figure of the Number given, *viz.* 7 I find at the Head of the Table, under which and against 5423, are these four Figures, *viz.* 2957 which being join'd to the three Figures before found, *viz.* 734, it will stand thus 7342957; before which the proper Index being plac'd, the Log. of 54237 is found to be 4.7342957.

Note, That when the four last Figures of the Logarithm begin with a Cypher, then prefix to them the three common Figures (in the second Column) that follow in the next line below, thus: For the Logarithm of 54453, instead of the three common Figures

A Number being given, to find its Logarithm. 5

Figures above, viz. 735. take the three common Figures in the line below, viz. 736; so the Log. of 54453, is not 4.7350218, but 4.7360218. The same is to be observed in all that follow in the same line;

IV. To find the Logarithm of a Number, consisting of six Places.

Find the Log. of the five first Figures by the last Prop. and note the common Difference in the last Column, but one, then look that Difference in the last Column, signed at the head *Pts.* and at bottom *Pro.* (which stands for *Parts Proportional*.) Against the sixth Figure of the Number given, is a Number, which being added to the Log. of the five places before found, is the Log. sought, when the proper Index, viz. 5, is prefix'd. *Example.* 542375 being given, the Log. of 54237 is found (by the last Prop.) to be 7342957, and the common Difference is 80, and in the last Column against 5 the last Figure, I find 40, which being added, to 7342957, makes 5.7342957; which is the Log. of 542375, which was sought.

Note. That the Proportional Part may be found (without the Table of Parts Proportional in the last Column) thus: Multiply 80, the common Difference, by the sixth place, (which in this Example is 5) then divide it by 10, will give 40, as before. By this Proportion is made the Table, intituled *Pts. Pro.* in the last Column.

V. To find the Logarithm of a Number consisting of seven places.

Find the first five places by Prop. III. and of the sixth place by the last; and for the seventh place, divide the Part Proportional by 10, (that is, set it one place farther to the right hand, than the last Figure of the Logarithm reaches) then add it to the Logarithm of the six places before found, their Sum is the Logarithm sought; so the Logarithm of 5423758 is found to

be 6.7343003: See the Margin, where is represented the Sum of the III^d, IVth, and this Vth Prop.

Note. That the Part Proportional may be found (without the Table in the last Column) for the two last places, by multiplying them by the common

Difference, and then dividing the Product by 100; so in the last Example, 80 multiply'd by the two last Figures, viz. 58, produces 4640, then divided by 100 Quotes 46.4, as before.

Pts
80
1-8
2-16
3-24
4-32
5-40
6-48
7-56
8-64
9-72
Pro

Num.	Logarithm.
54237	4.7342957
5	40
542375	5.7342997
54237	4.7342957
5	40
5423758	6.7343003

VI. A Fraction being given, to find its Logarithm, subtract the Logarithm of the Denominator from the Log. of the Numerator, the Remainder is the Log. sought, and is always the Logarithm of a Decimal Fraction.

Note, That the easiest and most useful way to find the Logarithm of a Fraction, is this; suppose the Index of the Log. of all Numbers from 1 to 10 to be 10 or 100, from 10 to 100 to be 11 or 101 from 100 to 1000 to be 12, or 102, from 1000 to 10000 to be 13 or 103, and so upwards. This being allowed the Index of the Log. of a Number, one place below Unity, must be 9 or 99, if two places below Unity, it must be 8 or 98, if three places, then the Index must be 7 or 97, if four places then 6 or 96, the latter of these ways is often convenient to distinguish the Index of a whole Number, from that of a decimal Fraction, and often necessary when the Power or Root of a decimal Fraction is required, as in the next Chapter.

Example, The Log. of $\frac{1}{3}$ is found thus: 3 Log. 0.4771213
From which subtract the Denominator, viz. 4 Log. 0.6020600
The Remainder is the Log. of $\frac{1}{3}$.75 Log. -9.8750613

Note, That the Denominator of a proper Fraction is always greater than its Numerator; so the supposing the Index of the Log. of 3 to be 10 or 100, the Index of the Remainder will be 9 or 99 (that is one place below Unity) and the rest of the Log. except the Index, is found in the Table of Logarithms to answer to 75, 750, 7500, .0075, .075, .75, of any other Number, whose two significant Figures are 75, and those which follow or precede all Cyphers. It was the former of these ways, Mr. Briggs and Mr. Gunter made the Characteristicks of their Tables of *Logarithmetick Sines and Tangents*; where it may be noted, when the *Natural Sine* or *Tangent* is a decimal Fraction only, the Index is under 10; but where it is a mixt Number, there the Index is 10 or more. For Example: The *Natural Tangent* of 5 Degrees is .087488, the *Artificial* is 8.9419518; and the *Natural Tangent* of 85 Degrees is .1430052, the *Artificial* is 11.0580482. It is needless to use these new Indices, except some Term given or sought be less than an Unite.

VII. *To find the Logarithm of a mixt Number.*

Reduce the Number given into an improper Fraction, then subtract the Logarithm of the Denominator from the Log. of the Numerator, the Remainder is the Logarithm sought.

Example, Let $4\frac{1}{2}$, be the mixt Number given; this, reduced to an improper Fraction, is $\frac{9}{2}$.
The Logarithm of the Numerator, viz. 9, is 1.7558748
The Logarithm of the Denominator, viz. 2, is 1.0791812
The Logarithm of $4\frac{1}{2}$, equal to $4\frac{1}{2}$, whose Log. is 0.6766936

A Logarithm being given, to find the Corresponding Number. 7

If the Fraction annex'd be a Decimal, seek for it as if it was a whole Number, observing to prefix to its Logarithm a suitable Index, which always is an Unit less than the number of places in the whole Number. to which it belongs; which is further illustrated by the adjoining Table, where the Logarithms, except the Index, are the same in these Eight Examples: The Index of the Log of 47500 is 4, because the absolute Number consists of 5 places: For the same Reason, in 475, the Index of its Log. is 2; in 47.5, it is 1; but the Index of a proper decimal Fraction is so many Units, as the Cyphers before it wants of 9 or 99, so the Index of .0475 is 8 or 98, and of .00475 is 7 or 97.

<i>Numb.</i>	<i>Logarithm.</i>
47500	4.6766936
4750	3.6766936
475	2.6766936
47.5	1.6766936
4.75	0.6766936
.475	99 or 9.6766936
.0475	98 or 8.6766936
.00475	97 or 7.6766936

VIII. To find the Number that answers to any given Logarithm

Find the three first Figures (except the Index) of the Log. given in the second Column, and the four last in the same, or in some of the nine following; where, if you find it exactly, you have your desire; when so many places at the right hand of the Number sought, are prick'd off for a decimal Fraction, as will leave the whole Number more by one place, than there are Units in the Index of the Log. given.

Example, The Number answering to this Log viz. 2.7342957, being sought, I look in the second Column for 734, (the three first Figures) and having found them, I look for the four last among the ten Columns at the right hand, and find under the Figure of 7, is 2957; so I conclude, 54237 is the Number sought, (whose Log. without its Index, is 7342957) but then I consider, that the Index of the Log. given is 2, therefore the three places at the left is a whole Number, and the two last a decimal Fraction. viz. 542.37; if the Index had been 3, it would have been 5423.7. if the Index had been 4, then the absolute Number sought had been 54237; if the Index had been .9 or 99 the Number sought had been .54237. You may see, in all these Examples, the Log. is the same, except the Index. I am the more explicit in this, both here and before, because the Use of Logarithms is very much obscured, if it be not understood: Which makes Sir Jonas Moor say, in his *Arithmetick*, *That the Canon of Logarithms is in every Man's hand, but their perfect use in decimal Fractions known but to few.*

IX. If the Logarithm given be not found exactly in the Table, take the nearest that is less, and subtract it from the Log. sought, what remains look for in the Parts Proportional (of its common Difference) for the nearest Number less than the Remainder, against which is a sixth Figure to be placed at the right hand of the five Figures before found; and in case the Part Proportional be not found exactly, subtract it from the first Remainder, then place a Cypher at the right hand of the last Remainder (in the manner of a decimal Fraction;) last of all, against the nearest Part Proportional (either bigger or less) is a seventh Figure to be placed at the right hand of the six Figures before found.

Example, Let the Logarithm given be ———— 6.7343003
 The nearest less is the Logarithm of 54237 ———— 7842957
 The Remainder (and common Diff. is 80) ———— 46
 The nearest less, in the Parts Pro. gives 3 ———— 40
 The second Remainder is ———— 06.6
 The nearest in the same Parts Pro. gives 8 ———— 6.4
 Answ. 6.7343003 is the Logarithm of 5423758

Note, That without the Table of Parts Proportional, the Number answering to any Logarithm, not exceeding 9.999 999, may be thus found, viz. Find (by the foregoing Directions) the nearest Log. that is less, and subtract it from the Log. given; then annex two Cyphers to the right hand of the Remainder, and divide it by the common Difference, the Quotient gives two Figures to be placed on the right hand of the Number answering to the first found Logarithm.

CHAP. III. Of Logarithmical Arithmetick.

I. **I**N *Multiplication*, add the Log. of the Multiplicand and multiplier together, their Sum is the Log. of the Product
Ex. Mul. 8.5 Log. 0.9294189
 by 10 Log. 1.0000000
 Product 85 Log. 1.9294189

II. **I**N *Division*, subtract the Log. of the Divisor from the Log. of the Dividend, the Remainder is the Log. of the Quotient.
Exam. 9712.8 Log. 3.9873444
 Divid. by 456 Log. 2.6589648
 Quotient 21.3 Log. 1.3283796

III. **I**N the *Rule of Three*, add the Log. of the second and third Term together, and from their Sum subtract the Log. of the first, the Remainder is the Log. of the fourth. *Example,* If Four Ells cost 9 l. what will Twelve Ells cost? *Answ.* 27 l.

The

The Log. of 4 0.6020600

The Log. of 9 0.9542425

The Log. of 12 1.0791812

The Log. of 108 2.0334237

The Log. of 27 1.4313637

Note, That if the Arith. Com. of the Log. of the first Term (which in this Example is 9.3979400) be added to the Log. of the second and third. The Result will be the same.

IV. To find the Complement Arithmetical of a Logarithm. Begin at the left Hand, and take the Complement of each Figure to 9, only under the last take its Complement to 10, which is all one with subtracting the same Logarithm from 10.0000000.

If there be two or more Logarithms to be subtracted, take their Arith.

Complements. Thus the Double Rule of Three, in Logarithms, may be wrought by one Addition. *Exam.* If the Interest

of 100*l.* for 365 Days, is 6*l.* what is the

Interest of 5173*l.* for 321, *Ans.* 272.964*l.*

See the Work.

8.0000000 Co. Ar. 100

7.4377071 Co. Ar. 365

0.7781512 Log. of 6

3.7137425 Log. of 5173

2.5065050 Log. of 321

22.4361058 = 272. 964*l.*

Of Raising of Powers by Logarithms.

V. Multiply the Log. of the Number given by the Index of the Power required, the Product will be the Log. of the Power sought, so the Log. of 32 = 1.5051500 \times 3 = 4.5154500 the Log. of 32768 which is the Cube of 32.

VI. In the Multiplication, or Raising the Powers, viz. Squaring or Cubing, &c. of any Decimal Fraction by Logarithms, the Index of the Logarithm of the Product or Power must consist of so many Units, as the Number of Cyphers intercepted between the place of Unity, and the first significant Figure in the Natural Number, wants of 9, 99, 999, &c. only to the Index of the Logarithm of the Power, (i. e. the Square or Cube, &c.) there will be such a Figure prefix'd, as wants an Unit of the Index of that Power or Number by which the Logarithm was multiply'd; for Example, let the Cube of .009 be required, the Log of .009 is 7.9542425 \times 3 = 23.8627275 = .000000729 the Cube of .009 and the Index of the Logarithm of the Power or Product is 3, therefore Six Cyphers must precede the first significant Figure of the Natural Number; and 2 is prefix'd, since the Index or Number multiplying was 3. But when the Number of Cyphers preceding the significant Figures of the Power or Product, exceeds 10, 'tis necessary to admit another Figure into the Index of the Logarithm, and make it the Complement to a Hundred: As suppose the sixth Power, or the Cubo-Cube of the Sine of odeg. 1min. be required, its Logarithm in the Tables is 6.4637261; but in this Case must be 96.4637261, which multiply'd by 6, the Index of

Again, Let the 6.25 Power of .0032 be sought, the Log. of .0032 (as before) is 7.5051500, and its Arith. Comp. 2.4948500 $\times 6.25 = 15.5928125$, its Arith. Comp. is 84.4071875, which answers to .00000,00000,00000,25538, which is the 6.25 Power of .0032

IX. To extract any Root of a Decimal Fraction, divide the Arith. Complement of the Logarithm of the Fraction given by the Index of the Root required, the Arith. Comp. of the Quotient is the Log. of the Root sought; For Instance, let the .625 Root of .0275879 be required, its Log. is 8.4407188, and its Arith. Comp. = 1.5592812, divided by .625, the Quotient is 2.4948500, and its Arith. Comp. is 7.5051500, the Log. of .0032; which is the Root required.

Again, Let the 6.25 Root of .00000,00000,00000,25538 be required, its Logarithm is 84.4071875, and its Arith. Comp. 15.5928125, divided by 6.25, the Quotient is 2.4948500, and its Arith. Comp. 7.5051500 the Log. of .0032, the Root required.

X. To find as many Mean Proportionals as are desired between any two Numbers given, subtract the Log. of the least Term from the Log. of the greatest, and divide the Remainder by a Number more by one than the Number of Means desired, then add the Quotient to the Log. of the least Term (or subtract it from the Log. of the greatest) continually, and it will give the Logarithms of all the Mean Proportionals required. *Example,* Let Three Mean Proportionals be sought; between 106 and 100.

The Log. of 106 2.0253059

The Log. of 100 2.0000000

Divided by 4)0.0253059(0.0063264.75 the Log. Quotient=(1)

The Log. of the least term 100 2.0000000 (2)

The first Mean, 101.4673846 2.0063264.75 (3)=1+2

The second, viz. 102.9563014 2.0126529.5 (4)=1+3

The third, viz. 104.4670483 2.0189794.25 (5)=1+4

The greatest Term 106. 2.0253059 (6)=1+5

If of 11 Mean Proportionals, between 106 and 100, the 9th Mean was required, divide the Remainder by 12, and multiply the Quotient by 9, and add it to the least Term; or multiply it by 3, and subtract it from the greatest, it will give the Log. of the 9th Mean Proportional required, and is the same with the Third in the foregoing Example.

C H A P. IV.

The Resolution of the Cases of Right-line Triangles, by Logarithms.

THUS far we have shewed the Use of the Logarithms of the Chiliads : Now we will shew the Use of the same, together with the Logarithms of the Canon of Triangles, and that in the Resolution of Right-line Triangles.

Wherein, this is generally to be observed, that when we say The Sine, Tangent, &c. we mean The Logarithms of the same Sine, Tangent, &c. in the above said Canon.

Figure II.

Prop. I. *Having the three Angles, and one side, to find either of the other sides.*

Add the Logarithm of the given Side to the Sine of the Angle opposed to the Side required, and from the Sum subtract the Sine of the Angle opposed to the given Side, the Remainder will be the Logarithm of the Side required.

For Example: In the Triangle B C E, having the Angle C E B 90 grad. C° E 51 grad. 56 min. B C E 38 grad. 4 min. and the side B E 197.3 ; we would know the Side C E.

2.29512.71 the Log. of 197.3
 9.99613.69 the Sine of 51 grad. 56 min.
 12.19126.40 the Sum
 9.78998.80 the Sine of 38 grad. 4 min.
 2.40127.60 the Log. of 251.9278 for C E required.

Or you may add the Arithmetical Complement of the Sine of the Angle opposed to the given side, to the two other Logarithms, and the Sum shall be the Logarithm of the side required. As we have shewn in the III^d Chapter, Proposition IV. And it is to be noted, that the Arithmetical Complements of the Sines in the Canon are to be found in the Columns of the Secants: (For neglecting the first Unit) the Secants of the Complements of the same Archs, whereof the Sines are expressed in the Canon, are the Arithmetical Complements of the same Sines. For Example: The Sine of 38 grad. 4 minutes being 9.789988; the Secant of 61 grad. 56 min. the Complement thereof is 10.2100120, which (neglecting the first Unit) is the Arithmetical Complement of the said Sine.

0.21001.20 the Ar.Co. of the sine 38 gr. 4 m.
 2.29512.71 the Log. of 197.3
 9.99613.69 the sine of 51 grad. 56 min.
 12.40127.60 the Log. of 251.9278, as before

But

The Cases of Right-lin'd Triangles solv'd by Logarithms. 13

But if one side of a Rectangle Triangle, and the Angles be known, and you would have the other side, as in the former Example, the Operation will be easier, thus :

Add the Tangent of the Angle opposit to the side required, to the Logarithm of the given side, and from the Sum subtract the Radius, the Remainder shall be the Logarithm of the Side required.

10.10614.88 the Tangent of 51 grad. 56 min.
 2.29512.71 the Log. of 197.3
 12.40127.59 the Log. of 251.9, as before

Prop. II. *Having two sides, and an Angle opposite to one of them ; to find the other two Angles, and the third side.*

Add the Sine of the Angle given, to the Logarithm of the side opposit to an Angle required, and from the Sum subtract the Logarithm of the side opposit to the Angle given, the Remainder shall be the Sine of the Angle opposit to the other side given.

For Example : In the Triangle ABC. the side AC being 800, BC 320, and the Angle ABC 128 grad. 4 min. we would know the Angles BAC, ACB, and the side AB.

9.89613.69 the Sine of 128 grad. 4 min.
 2.50515.00 the Log. of 320.
 12.40128.69 the Sum
 2.90309.00 The Log. of 800

9.49819.69 the Sine of 18 gr. 21 min. for BAC
 Having BAC and ABC. the Angle ACB is their Complement to 180 grad. viz. 33 grad. 35 min. and the Side AB you may find by first Proposition.

Prop. III. *Having two sides, and the Angle between them ; to find the other two Angles, and the third side.*

If the Angle included be Right, add the Radius to the Logarithm of

the lesser side, and from the Sum subtract the Logarithm of the greater side, the Remainder shall be the Tangent of the Angle opposit to the lesser side.

For Example : In the Triangle BCE, the side BE being 197.3, and CE 251.9 we would know the Angles BCE, CBE, and the Base CB.

12.29512.71 the Rad. added to the Log. of 197.3
 2.40122.78 the Log. of 251.9
 9.89389.82 the Tang. of 38 gr. 4 min. for BCE

But if the Angle included be oblique, add the Logarithm of the Difference of the given Sides to the Tangent of half the Sum of the Angles unknown, and from the Sum subtract the Logarithm of the Sum of the given Sides, the Remainder shall be the Tangent of the half of their Difference.

For Example : In the Triangle ABC, the side AB being 562, BC 320, and the Angle ABC 128 grad. 4 min. we would know the Angles BAC, ACB, and the Side AC.

The Sum of the given Sides is 882, and the Difference 242, the half Sum of the Angles unknown, is 25 grad. 58 min.

(sides given
 2.38381.54 the Log. of 242 the Diff. of the
 9.68754.02 the Tang. of 25 gr. 58 min. the half
 Sum of the Angle unknown
 12.07135.56 the Sum
 2.94546.86 the Log. of 882, the Sum of the
 sides given
 9.12538.70 the Tangent of 7 grad. 37 min.

These 7 grad. 37 min. being added to 25 grad. 58 min. the half Sum of the Angles unknown, the Sum is 33 grad. 35 min. for the greater Angle ACB ; and the same 7 grad. 37 min. being subtracted from 25 grad. 58 min. the Remainder is 18 grad. 21 min. for the less Angle CAB. Lastly, knowing three Angles, and two Sides, the third may be found by the first Proposition.

Prop.

14 The Cases of Right-lin'd Triangles solv'd by Logarithms.

Prop. IV. Having the three sides;
to find any Angle.

Add the three sides together, and take half the Sum thereof, and the Differences betwixt the same half Sum and each side. This done, add the Logarithms of the half Sum, and of the Difference betwixt the same half Sum and the Base, together. Add also the Logarithms of the Differences of the other two sides, and the doubled Radius together: Then out of this Sum subtract the first Sum, and half the Remainder will be the Tangent of half the Angle required.

For Example: In the Triangle ABC, the side AB being 562, AC 800, and BC 320, we would know the Angle A B C.

AC 800 the base.
AB 562 the side.
BC 320 the side.

The sum $\overline{1682}$
The half sum 841 log. 2.92479.66
The dif. of AC 41 log. 1.61278.39
The Sum $\overline{4.53757.99..}$
The diff. of AB 279. log. 2.44560.42
The diff. of BC 242. log. 2.71683.77
Doubled Radius $\overline{20.02000.00}$
The Sum $\overline{25.16244.19}$
The first sum subtracted $\overline{4.53757.99}$
The Remainder $\overline{20.62486.20}$
Half the Remainder 10.31243.10 Tang.
of 64 gr. 2 min. whose double is 128 gr.
4 min. for ABC

Or add the Arithmetical Complements of the Logarithm of half the Sum, and of the Difference betwixt the same half Sum and the Base, to the Logarithms of the two other Differences, and half the Sum shall be the Tangent of half the Angle required.

7.07520.46 the Ar. Co. of log. 243
8.38721.61 the Ar. Co. of log. of 41
2.44560.42 the log. of 279.
 $\overline{2.71683.77}$ the log. of 242.

The sum $\overline{20.62486.20}$
Half sum 10.31243.10 is the Tangent of 64 gr
2 min. as before

CHAP. V.

The Resolution of the Cases of Spherical Triangles by Logarithms.

THE Resolution of the Spherical Triangles is to be done by the Canon of Triangles, which we shall shew by 28 Propositions following, whereof 16 are of Rectangle, and 12 are of Oblique Triangles; and first of the Rectangle.

Figure III.

Prop. I. Having the two sides; to find the Base.

Add the Co-sine of one side, to the Co-sine of the other side, and

from the Sum subtract the Radius, the Remainder is the Co-sine of the Base required.

For Example: In the Rectangle ABC, having AC, 27 gr. 54 min. and BC 11 gr. 30 min. we would know the Base AB.

9.99119.27 the Co-sine of 11 gr. 30 min.
9.91633.71 the Co-sine of 27 gr. 54 min.
 $\overline{19.93752.98}$ the Co-sine of 30 gr. 0 min.
for AB required.

Prop.

The Cases of Spherical Triangles solv'd by Logarithms 14

Prop. II. *Having the two sides ; to find either of the Oblique Angles.*

Add the Sine of the Side next the required Angle, to the Co-Tangent of the opposite Side, and from the Sum subtract the Radius, the Remainder is the Co-Tangent of the Angle required.

For Example : In the Rectangle ACB having AC 27gr. 54min. and BC 11grad. 30min. we would know the Angle BAC .

9.67018.07 the Sine of next side 27gr. 54m.
10.69153.74 the Co-Tang. of the opposite side 11 grad. 30 min.
10.36171.81 the Co Tang. of 23gr. 30min. for BAC required.

Prop. III. *Having the Base, and one of the Oblique Angles ; to find the other Oblique Angles.*

Add the Co-sine of the Base to the Tangent of the Angle given, and from the Sum subtract the Radius, the Remainder shall be the Co-Tangent of the Angle required.

For Example : In the Rectangle ACB , having the Base AB 30 grad. and the Angle ABC 69gr. 22min. we would know the Angle BAC .

9.93753.06 the Co-Sine of the Base 30gr.
10.42418.95 the Tang. of the Angle 69gr.
10.36172.01 the Co-Tang. of 23gr. 30min. for BAC required.

Prop. IV. *Having the Base, and one of the Oblique Angles ; to find the side next unto the same Angle.*

Add the Tangent of the Base to the Co-Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Tangent of the side required.

For Example : In the Rectangle ACB , having the Base AB 30 grad. and the Angle ABC 69 grad. 22 m. we would know the side BC .

9.76143.93 the Tang. of the Base 30gr.
9.54761.88 the Co-Sine of the Angle 69gr. 22 m n.
19.30845.81 the Tangent of 11gr. 30min. for BC required.

Prop. V. *Having the Base, and one of the Oblique Angles ; to find the side opposed to the same Angle.*

Add the Sine of the Base to the Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Sine of the Side required.

For Example : In the Rectangle ACB having the Base AB 30 grad. and the Angle BAC 23grad. 30min. we would know the Side BC .

9.69897.00 the Sine of the Base 30gr.
9.60069.97 the Sine of the Angle 23gr. 30m.
19.29966.97 the Sine of 11gr. 30min. for BC required.

Prop. VI. *Having one of the sides, and the Oblique Angle next unto it ; to find the Base.*

Add the Co-Tangent of the Base given, to the Co-Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Co-Tangent of the Base required.

For Example : In the Rectangle ACB , having the side AC 27 grad. 54 min. and the Angle BAC 23 gr. 30 min. we would know the Base AB .

10.27615.63 the Co-tang. of the side 27gr. 54m.
9.96239.77 the Co sine of the Ang. 23gr. 30m.
20.23855.40 the Co-tangent of 30 grad, for AB required.

Prop. VII. *Having one of the sides, and the Oblique Angle next unto it ; to find the other side.*

Add the Sine of the Side given to the Tangent of the Angle given, and from the Sum subtract the Radius, the Remainder is the Tangent of the side required.

For

16 The Cases of Spherical Triangles solv'd by Logarithms.

For Example. In the Rectangle A C B having the side A C 27 grad. 54 min. and the Angle B A C 23 grad. 30 min. we would know the side B C.

9.67018.07 the Sine of the side 27 gr. 54 m.
9.67820.19 the Tan. of the Ang. 23 gr. 30 m.
19.30043.20 the Tangent of 11 gr. 30 m. for
BC required.

Prop. VIII. Having one of the sides, and the Oblique Angle next unto it ; to find the other Oblique Angles.

Add the Co-sine of the side given to the Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Co-sine of the Angle required.

For Example : In the Rectangle ACB, having the Side BC 11 grad. 30 min. and the Angle ABC 69 gr. 22 min. we would know the Angle BAC.

9.99119.27 the Co-sine of the side 11 gr. 30 m.
9.97120.84 the Tan. of the Ang. 69 gr. 22 m.
19.96240.11 the Co-sine of 23 deg. 30 min.
for BAC required.

Prop. IX. Having one of the sides, and the Angle opposed unto it ; to find the Base.

Add the Radius to the Sine of the given side, and from the Sum subtract the Sine of the Angle given, the Remainder is the Sine of the Base required.

For Example : In the Rectangle A C B, having the side B C 11 gr. 30 min. and the Angle B A C 23 grad. 30 min. we would know the Base A B.

19.19965.53 the Radius added to the Sine of
the side 11 gr. 30 min.
9.60069.97 the Sine of the Angle 23 grad.
30 min.
9.9895.56 the Sine of 30 grad. for A B re-
quired.

Prop. X. Having one of the sides, and the Angle opposed unto it ; to find the other side.

Add the Tangent of the given side to the Co-Tangent of the given Angle, and from the Sum subtract the Radius, the Remainder is the Sine of the side required.

For Example : In the Rectangle ACB, having the Side BC 11 grad. 30 min. and the Angle B A C 23 grad. 30 min. we would know the Side AC.

9.30846.26 the Tan. of the side 11 gr. 30 m.
10.36169.81 the Co-Tan. of the Angle 23 gr.
30 min.
19.67016.07 the Sine of 27 grad. 54 min. for
AC required

Prop. XI. Having one of the sides, and the Angle opposed unto it ; to find the other Oblique Angle.

Add the Radius to the Co-sine of the Angle given, and from the Sum subtract the Co-Sine of the Side given, the Remainder is the Sine of the Angle required.

For Example : In the Rectangle ACB, having the Side BC 11 grad. 30 min. and the Angle BAC 23 gr. 30 min. we would know the Angle ABC.

19.96239.77 the Radius added to the Co-sine
of the Angle 23 grad. 30 min.
9.99119.27 the Co-sine of the Side 11 grad.
30 min.
9.97120.50 the Sine of 69 grad. 22 min. for
ABC required.

Prop. XII. Having one of the sides, and the Base ; to find the Oblique Angles adjacent unto the same side.

Add the Tangent of the side given to the Co-Tangent of the Base, and from the Sum subtract the Radius, the Remainder is the Co-sine of the Angle required.

For

The Cases of Spherical Triangles solv'd by Logarithms. 17

For Example: In the Rectangle ACB, having the side AC 27 grad. 54 min. and the Base AB 30 grad. we would know the Angle BAC.

9.71384.36 the Tang. of the side 27 gr. 54 m.
10.23856.06 the Co-tang. of the Ang. 30 grad.
19.96240.42 the Co-sine of 23 gr. 30 m. for
BAC required.

Prop. XIII. Having one of the sides, and the Base; to find the Angle opposite to the same side.

Add the Radius to the Sine of the side given, and from the Sum subtract the Sine of the Base; the Remainder shall be the Sine of the Angle required.

For Example: In the Rectangle ACB, having the Side BC 11 grad. 30 min. and the Base AB 30 grad. we would know the Angle BAC.

19.29965.53 the Radius added to the Sine of
the side 11 gr. 30 min.
9.69897.00 the Sine of the Base
9.60068.53 the Sine of 3 gr. 30 m. for BAC
required.

Prop. XIV. Having one of the sides, and the Base; to find the other side.

Add the Radius to the Co-sine of the Base, and from the Sum subtract the Co-sine of the side given, the Remainder is the Co-sine of the side required.

For Example: In the Rectangle ACB, having the Side BC 11 grad. 30 min. and the Base AB 30 grad. we would know the side AC.

19.93753.06 the Radius added to the Co-sine
of the Base 30 grad.
9.99119.27 the Co-sine of the side 11 gr. 30 m.
9.94633.79 the Co-sine of 27 gr. 54 m. for
AC required

Prop. XV. Having the two Oblique Angles; to find the Base

Add the Co-Tangent of one Angle given to the Co-Tangent of the

other Angle given and from the Sum Subtract the Radius, the Remainder is the Co-sine of the Base required.

For Example: In the Rectangle ACB, having the Angle BAC 23 grad. 30 min. and the Angle ABC 69 grad. 22 min. we would know the Base AB.

10.36169.81 the Co-Tan. of 23 gr. 30 min.
9.57581.04 the Co-tan. of 69 gr. 22 m.
19.93750.85 the Co-Sine of 30 grad. for AB
required.

Prop. XVI. Having the two Oblique Angles; to find either of the sides.

Add the Radius to the Co-sine of either Angle, and from the Sum subtract the Sine of the other Angle, the Remainder shall be the Co-Sine of the Side opposite to the Angle, whose Co-Sine was taken.

For Example: In the Rectangle ACB, having the Angle BAC 23 grad. 30 min. and the Angle ABC 69 deg. 22 min. we would know the side BC.

19.96239.77 the Radius added to the Co-sine
of BAC 23 grad. 30 min.
9.97120.84 the Sine ABC 69 grad. 22 min.
9.99118.93 the Co-Sine of 11 gr. 30 min. for
BC required.

Fig. IV.

Prop. XVII. Having the three sides to find any of the Angles.

Add the three sides, and take half the Sum, and the Difference betwixt the same half Sum and the Base. This done, add the Sines of two Sides together: Add also the Sine of half the Sum of the three Sides, the Sine of the said Difference, and the doubled Radius, together; then out of this Sum subtract the first Sum, and half the Remainder shall be the Co-sine of half the Angle required.

18 The Cases of Spherical Triangles solv'd by Logarithms.

For Example : In the Triangle SZP, having the side ZS 40 grad. PS 70 grad. and PZ 38 grad. 30 min. we would know the Angle ZPS.

the Base ZS 40. 0
the side PS 70. 0 the sine 9.97298.58
the side PZ 38.30 the sine 9.79414.95
the sum 148.30 the sum 19.76713.53
the half sum 74.15 the sine 9.98338.05
the Differ. 34.15 the sine 9.75035.79
the doubled Radius 20.00000.00
the sum 39.73373.84
the Remainder 19.96660.31
Half the Remainder 9.98330.15
Which is the Co-sine of 15 gr. 47 m.
The double whereof is for the Angle ZPS
31 grad. 34 min.

Or instead of the Sines, which are to be subtracted, take their Arithmetical Complements, and add them to the Sines of half the Sum and of the said Difference; then half the Sum shall be the Co-sine of half the Angle required.

0.02701.42 the Ar. Co. of 70 gr. the side
0.20585.05 the Ar. Co. of 38 gr. the side
9.98338.05 the sine of 74 d. 15 m. $\frac{1}{2}$ sum
9.75035.79 the S. of 34 d. 15 m. the Diff.
19.96660.31 the sum
9.98330.15 the half sum is the Co-sine
of 15 gr. 47 m. and the double 31 gr.
34 m. the Angle ZPS required.

Prop. XVIII. Having the three Angles ;
to find any of the sides.

If for the greater angle we take his Complement to 180 grad. the angles shall be turned into sides, and the sides into angles, and the Operation shall be the same, as in the former Proposition.

Prop. XIX. Having two Angles, and
a side opposed to one of them ; to find
the side opposed to the other Angle.

Add the Sine of the side given to
the Sine of the Angle opposed to the
side required, and from the Sum sub-

tract the Sine of the Angle opposed to
the side given, the Remainder shall
be the Sine of the side required.

For Example : In the Triangle SZP, having the Angle SZP 130 gr. 3 min. 12 sec. SPZ 31 grad. 34 min. 26 sec. and the side ZS 40 grad. we would know the side PS.

9.80806.75 the sine of the side 40 grad.
9.88391.45 the sine of Ang. 130 gr. 3.12

19.69198.20 the sum
9.71899.76 the S. of the An. 31 gr. 34.26

9.97298.44 the Remainder, which is the
sine of 70 gr. for PS. req.

Prop. XX. Having two Angles, and
a side opposed to one of them ; to find
the side between the Angles given.

Let a Perpendicular fall from the
angle unknown, upon his opposite
side : Then

Add the Co-sine of the given Angle
adjacent unto the given side, to the
Tangent of the given side, and from the
sum subtract the Radius, the Remainder
shall be the Tang of the first Arch.

This arch shall be comprehended
between the given angle adjacent unto
the given side, and the Segment of the
side where the Perpendicular falls :
Now the second arch comprehended
between the same Segment and the
other angle, is to be found thus :

Add the sine of the arch found, to
the Tangent of the given angle adja-
cent unto the given side, and from the
sum subtract the Tangent of the other
given angle, the Remainder shall be
the Sine of the second Arch.

The first and second arch being
added together, or else subtracted,
you shall have the side required.

For Example : In the Triangle SZP, having the Angle ZPS 31 gr 34, 26. ZSP 30 grad. 28, 12, and the side PZ 38 grad. 30 min. we would know the side SP.

9.93042.22 the Co-sine of 31gr. 34,26,
the adjacent angle.
9.90060.52 the tang. of 38 gr. 30 min.
the side given
19.83102.74 the tang. of 34 gr. 7 and a
half min. for PR the 1st arch
9.74896.30 the sine of 34gr. 7 and a half
min. the arch found.
9.78857.56 the tang. of 31 gr. 34,26,
the adjacent angle
19.53753.86 the sum
9.76962.83 the tang. of 30 gr. 28, 12,
the other given angle
9.76791.03 the sine of 35gr. 52 m.
and a half, for SR the 2d arch.

Now in this Example, adding PR
34 grad. $7\frac{1}{2}$ min. (the first Arch to SR
35 grad. $52\frac{1}{2}$ min. (the second Arch)
the Sum is 70 grad. for SP required.
In like manner you may find the side
required, when the Perpendicular
falls out of the Triangle propounded

*Prop. XXI. Having two Angles, and
a side opposite to one of them; to find
the third Angle.*

Let a Perpendicular fall from the
Angle unknown, upon his opposite
side: Then

Add the Co-sine of the given side
to the Tangent of the adjacent Angle,
and from the sum subtract the Radius,
the Remainder shall be the Co-tangent
of the first Angle to be found.

This Angle found shall be com-
prehended by the given side and the
Perpendicular. Now the second Angle,
comprehended by the Perpendicular
and the side unknown, is to be found
thus:

Add the Sine of the Angle found,
to the Co-Sine of the given Angle op-
posed to the given side, and from the
sum subtract the Co-Sine of the other
Angle given, the Remainder shall be
the Sine of the second Angle.

The first and second Angle being
added together, or else subtracted,
you shall have the Angle required.

For Example: In the Triangle

SZP, having the Angle ZPS 31 grad.
34,26, ZSP 30 grad. 28,12, and the
Side PZ 38 grad. 30 min. we would
know the Angle SZP.

9.89354.44 the Co sine of 38gr. 30 m.
the given side.

9.78857.56 the tang. of 31gr. 34, 26,
the adjacent Angle

19.68212.00 the Co-tang. of 64gr. 18,50,
for PZR. the first Angle

9.95481.26 the sine of 64gr. 18,50, the
Angle found

9.93545.67 the Co-sine of 30d. 28,12,
the opposed Angle

19.89026.93 the sum

9.93042.22 the Co-sine of 31gr. 34,26,
the adjacent Angle

9.95984.71 the sine of 65gr. 44,23, for
SZR the second Angle.

Now in this Example, adding PZR
64 grad. 18, 50, (the first Angle) to
SZR 65 grad. 44, 23. (the second
Angle) the Sum is 130 grad. 3, 13,
for the Angle SZP required. In like
manner we may find the third Angle
when the Perpendicular falls out of
the Triangle propounded.

*Prop. XXII. Having two sides, and
the Angle between them; to find either
of the other Angles.*

Let a Perpendicular fall from the
Angle unknown which you require
not upon the opposite Side, then

Add the Co-Sine of the given An-
gle, to the Tangent of that given
Side which is opposed to the Angle
required, and from the sum subtract
the Radius, the Remainder shall be
the Tangent of the first Arch.

This Arch found shall be compre-
hended between the given Angle and
the segment of the given Side where
the Perpendicular falls.

Now the second Arch is compre-
hended between the same segment and
the Angle required. Then,

Add the Sine of the first Arch, to
the Tangent of the given Angle, and
from the Sum subtract the Sine of

20 The Cases of Spherical Triangles solv'd by Logarithms.

the second Arch, the Remainder shall be the Tangent of the Angle required.

For Example. In the Triangle SZP, having the side PZ 38 grad. 30 min. PS 70 grad. and the Angle ZPS 31 grad. 34. 26, we would know the Angle PSZ.

9.93042.22 the Co-sine of 31 gr. 34, 26, the Angle given.
 9.90060.52 the Tang. of 38 gr. 30 min. the side opposite to the Angle req.
 19.83102.74 the Tang. of 34 gr. 7 and a half min. the first arch found
 9.74896.30 the Sine of 34 gr. 7 and a half min. the first arch found.
 9.78857.56 the Tang. of 31 gr. 34, 26, the Angle given
 19.53753.86 the Sum
 9.76791.15 the Sine of 35 gr. 52 and a half m. the second arch found
 9.76962.71 the Tangent of 30 grad. 28 min. for ZSP required.

To find both the Angles unknown.

Add the Sine of half the Difference of the given sides, to the Co-

The side PZ ——— 38 gr. 30. 0.

The side PS ——— 70 gr. 0. 0.

The Sum ——— 108 gr. 30. 0.

The half Sum ——— 54 gr. 15. 0.

The diff. of the sides 38 gr. 30. 0.

The half diff. 19 gr. 45. 0.

The Angle ZPS 31 gr. 34. 26.

The half Angle 15 gr. 47. 13.

The Sum

The Tangent of 49 gr. 47. 30

Half the Difference of the Angles is

Half the Sum is

The Sine 9.90932.81 The Co-sine 9.76659.85

The Sine 9.43367.46 The Co sine 9.98338.05

Co tang. 10.54863.52 The Co tang. 10.54863.52

19.98230.98 The Sum 20.53201.57

10.07298.17 Tang. 80.15.42 10.76541.72

49 gr. 47.30

80 gr. 15.42

The Sum 130 gr. 3, 12 for SZP.

The Diff. 30 gr. 28, 12 for ZSP.

Prop. XXIII. Having two sides, and the Angle between them; to find the third side.

Let a Perpendicular fall from either of the Angles unknown, upon his opposite side, then

Add the Co sine of the given Angle, to the Tangent of the side from whose End the Perpendicular is let fall, and from the Sum subtract the Radius, the Remainder shall be the Tangent of the first Arch.

tangent of half the Angle given, and from the Sum subtract the Sign of half the Sum of the given sides, the Remainder shall be the Tangent of half the Difference of the Angles required.

Add also the Co-sine of half the Difference of the given sides, to the Co-tangent of half the Angle given, and from the Sum subtract the Sine of half the Sum of the sides given, the Remainder shall be the Tangent of half the Sum of the Angles required.

Then add the half Difference of the Angles found, to the half Sum of the same, and you shall have the greater Angle: And the same half Difference being subtracted from the half Sum, you shall have the less Angle required: As in the former Example.

This Arch shall be comprehended between the Angle given, and the Segment of the side where the Perpendicular falls.

Now the second Arch shall be comprehended between the same Segment and the End of the side required. Then,

Add the Co-sine of the second Arch found, to the Co-sine of the side from whose End the Perpendicular falleth, and from the Sum subtract the Co-sine of the first Arch found, the Remainder shall be the Co-sine of the side required. For

For Example, In the Triangle SZP having the side PZ 38 grad. 30 min. PS 70 grad. and the Angle ZPS 31 grad. 34, 26, we would know the side ZS.

9.93042.22 the Co-sine of 31 grad. 34, 26,
the Angle given
9.93060.52 the Tangent of 38 grad. 30 min.
the Side PZ
19.83102.74 the Tangent of 34 gr. 7 min. and
a half for PR the first Arch.
9.91793.36 the Co-sine of 34 grad. 7 and a
half min. the first Arch
9.90864.44 the Co-sine of 35 grad. 52 and a
half min. for RS the second Arch.
9.89354.44 the Co-sine of 38 grad. 30 min. the
side PZ
19.80218.88 the Sum
9.88425.52 the Co-sine of 40 gr. for ZS the
side required.

Prop. XXIV. *Having two sides ; and one Angle opposed to one of them ; to find the Angle opposed to the other side.*

Add the Sine of the Angle given, to the Sine of the Side opposed to the Angle required, and from the Sum subtract the Sine of the side opposed to the Angle given, the Remainder shall be the Sine of the angle required.

For Example. In the Triangle SZP having the side PS 70 grad. ZS 40 grad. and the Angle SZP 130 grad. 3, 12, we would know the Angle SPZ.

9.88391.45 the Sine of 130 grad. 3, 12, the
Angle given
9.80806.75 the Sine of 40 grad. the side op-
posed to the Angle required.
19.69198.20 the Sum
9.97298.58 the Sine of 70 grad. the side
opposed to the Angle given.
9.71829.52 the Sine of 31 grad 34 min. for
SPZ required

Prop. XXV. *Having two sides, and one Angle opposed to one of them ; to find the third side.*

Let a Perpendicular fall from the Angle between the sides given, upon his opposite side, then

Add the Co-sine of the Angle given to the Tangent of the given side which is adjacent unto the same Angle, and from the Sum subtract the Radius, the Remainder shall be the Tangent of the first Arch.

This first Arch shall be comprehended between the given Angle, and the Segment of the side where the Perpendicular falls. Now the second Arch between the same Segment and the end of the side required, shall be found thus.

Add the Co-sine of the first Arch found, to the Co sine of that given side which is opposed to the Angle given, and from the Sum subtract the Co sine of the other side given, the Remainder shall be the Co-sine of the second Arch, the first and second Arch being added together, or else subtracted, you shall have the side required.

For Example: In the Triangles SZP, having the side PZ 38 grad. 30 min. SZ 40 grad. and the Angle SPZ 31 grad. 34, 26, we would know the side PS.

9.93042.22 the Co sine of 31 gr. 34, 26, the
Angle given
9.90060.52 the Tangent of 38 grad. 30 min.
the adjacent side
19.83102.74 the Tang. of 34 gr. 7 and a half
min. for PR the first Arch
9.91793.36 the Co sine of 34 gr. 7 and a half
min. for PR the first Arch
9.88425.40 the Co sine of 40 gr. the side op-
posed to the Angle given
19.80218.76 the Sum
9.9354.44 the Co-sine of 38 grad. 30 min.
the other side given
9.90864.32 the Co sine of 35 grad. 52 and a
half min. for SR the second
Arch.

Now in this Example, PR 34 gr. 7 and a half min. (the first Arch) being added to SR 35 gr. 52 and a half min. (the second Arch) the Sum is 70 grad. for PS the side required.

Prop.

22 *The Cases of Spherical Triangles solv'd by Logarithms.*

Prop. XXVI. *Having two sides, and one Angle oppos'd to one of them; so find the Angle between them.*

Let a Perpendicular fall from the Angle between the sides given, upon his opposite side. Then

Add the Co-sine of that given side which is adjacent unto the given Angle, to the Tangent of the same Angle, and from the Sum subtract the Radius, the Remainder shall be the Co-tangent of the first Angle to be found.

This first Angle found shall be comprehended by that given side which is adjacent unto the Angle given, and by the Perpendicular. Now the second Arch comprehended by the Perpendicular and the other given side, is to be found thus,

Add the Co-sine of the first Angle found, to the Tangent of the given side which is adjacent unto the Angle given, and from the Sum subtract the Tangent of the other given side, the Remainder shall be the Co-sine of the second Angle to be found.

The Sum, or the Difference of the first and second Angle, shall be the Angle required.

For Example: In the Triangle SZP, having the side PZ 38 grad. 30 min. SZ 40 grad. and the Angle SPZ 31 gr. 34, 26, we would know the Angle SZP.

9.87354.44 the Co-sine of PZ 38 gr. 30 m.
th. side adjacent
0.78857.56 the Tangent of SPZ 31 gr. 34, 26,
the Angle given.
12.68212.00 the Co-tangent of 64 gr. 18, 50, for
PZR the first Angle.
9.63692.96 the Co-sine of 64 gr. 18, 50, the
Angle found.
9.90600.52 the Tangent of 38 grad 30 m. n.
th. side adjacent
19.53753.48 the sum
9.42381.35 the Tan. of 40 grad. the other
given side.
0.61372.13 the Co-sine of 65 grad. 44, 23, for
SZR the second Angle.

Now in this Example, adding PZR 64 grad. 18, 50, (the first Angle) to SZR 65 grad. 44, 23, (the second Angle) found, the Sum is 130 grad. 3, 13, for SZP the Angle required.

Here is to be noted, If you would add the Arithmetical Complement of a Tangent to the others instead of Subtraction, that they are expressed in the Canon: For (neglecting the first Unit on the left Hand) the Co-tangents of the Arches or Angles less than 45 grad. are the Arithmetical Complements thereof; but the Co-tangents of the Arches or Angles greater than 45 grad. may be taken for Arithmetical Complements, if from the Sum be subtracted 2 on the left hand instead of an Unit.

Prop. XXVII. *Having two Angles, and the side between them; so find either of the other sides.*

Let a Perpendicular fall from that Angle given which is adjacent unto the side required, upon his opposite side. Then,

Add the Co-sine of the given side to the Tangent of that given Angle which is oppos'd to the side required, and from the Sum subtract the Radius: the Remainder shall be the Co-tangent of the first Angle to be found.

This Angle found shall be comprehended by the given side, and the Perpendicular. Now the second Angle is comprehended by the Perpendicular and the side required. Then

Add the Co-sine of the first Angle found, to the Tangent of the Side given, and from the Sum subtract the Co-sine of the second Angle found, the Remainder shall be the Tangent of the Side required.

For Example: In the Triangle SZP, having the Angle SPZ 31 gr. 34, 26. SZP 130 grad. 3, 12, and the Side

The Cases of Spherical Triangles solv'd by Logarithms. 23

side PZ 38 grad. 30 min. we would know the side SZ.

9.89354.44 the Co-sine of 38gr. 30m.
the side given.
9.78857.56 the Tang. of 31gr. 34, 26.
the oppos'd Angle
19.68212.00 the Co-tan. of 64gr. 18, 50,
for PZR the first Angle
9.63692.96 the Co-sine of 64gr. 18, 50.
the Angle found.
9.90060.52 the Tang. of 38gr. 30min.
the side given.
19.53753.48 the Sum
9.61372.21 the Co-sine of 65gr. 44, 22.
the second Angle,
9.92381.27 the Tang. of 40gr. for SZ
the side required

To find both the sides unknown.

Add the Sine of half the Difference of the Angles given, to the Tangent of

The Angle SPZ 31 gr. 34, 26.
The Angle SZP 130 gr. 3, 12.
The Sum 161 gr. 37, 38.
The half sum 80 gr. 48 49
The Diff. of the angles 98 gr. 28, 46.
The half Difference 49 gr. 14, 23.
The side PZ 38 gr. 30. 0.
The half side 19 gr. 15. 0.

The sum
The Tangent of 15 Gr.
Half the Difference of the sides is
Half the sum is

the Sine 9.99439.38 the Co sine 9.20316.40
the Sine 9.87935.27 the Co-sine 9.81484.37
the Tangent 9.54309.36 the Tangent 9.54309.36
the sum 19.35793.73
Tan. of 55gr. 10.15477.33
15 Gr. 0.
55 Gr. 0.

The sum 70 Gr. 0. for SP.
The Diff. 40 Gr. 0. for SZ.

Prop. XXVIII. Having two Angles, and the side between them, to find the third Angle.

Let a Perpendicular fall from either of the Angles given, upon his opposite side. Then

Add the Co-sine of the side given, to the Tangent of the given Angle, from which the Perpendicular falls not, and from the Sum subtract the Radius: the Remainder shall be the Co-tangent of the first Angle.

This Angle found shall be comprehended by the given side and the Perpendicular. Now the second

half the side given, and from the Sum subtract the Sine of half the Sum of the Angles given; the Remainder shall be the Tangent of half the Difference of the sides required.

Add also the Co-sine of half the Difference of the Angles given, to the Tangent of half the side given, and from the Sum subtract the Co-sine of half the Sum of the Angles given, the Remainder shall be the Tangent of half the Sum of the side required.

Then add half the Difference of the sides found, to the half Sum of the same and you shall have the greater side; and the same half Difference being subtracted from the half Sum, you shall have the less side required. As in the former Example.

Angle is comprehended by the Perpendicular and the side oppos'd to the other Angle given. Then

Add the Sine of the second Angle found, to the Co-sine of that given Angle from which the Perpendicular falls not, and from the Sum subtract the Sine of the first Angle found; the Remainder shall be the Cofine of the Angle required.

For Example. In the Triangle SZP, having the Angle SZP 130 gr. 3, 12. SPZ 3 gr. 34, 26. and the side PZ 38gr. 30min. we would know the Angle PSZ.

9.8934.44

9.9354.44 the Co-sine of 38gr 30min. the
Side given.
9.78857.56 the Tang. of 31gr. 34,26.
19.68212.00 the Co Tang. of 64gr. 18, 40.
for PZ: the first Angle
9.95481.26 the Sine of 64 grad. 18,50. the
first Angle found

9.95984.54 the Sine of 65Gr. 44,22, the
second Angle found
9.93042.22 the Co-sine of 31 gr. 34,26
19.89026.76 the Sum.
9.93545.50 the Co-sine of 30 gr. 28min.
for P S Z required.

Chap. VI. The Use of the Table of Versed Sines.

THE Uses of the Table of *Versed Sines* are too numerous to be here all treated of: I shall now only shew how by them more easily to solve some of the most useful Cases of *Spherical Triangles*, which alone is enough to merit their *Publication*. It has been a long time the Vices and desires of many able Men in the *Mathematicks* that such a Table might be collected and publish'd, but especially of that Ingenious and ancient Student Mr. *John Collins*, who has expressed his desire thereof more than once in his elaborate pieces and from whom I had the *Loan* of some Foreign Tables, which did assist much towards the composing of these.

Prop. 1. Two sides of an Oblique Spherical Triangle, with the Angle comprehended, being given, to find the third side,

As the Cube of the Radius: Is to the Rectangle of the Sines of the comprehended sides. :: So is the Square of the Sine of half the contained angle, : To half the Difference of the Versed Sines of the third side, and of the Ark of Difference between the two including sides.

Which is thus, double the Log sine of half the Angle given, and thereto add the Log. sines of the containing sides, and from the l-ft hand of the Sum, dash out 3 for the Cube of the Radius, so rests the Log. of half the difference of those two *Versed Sines*.

Which half difference doubled, and added to the *Versed Sine* of the Difference of the Legs or containing sides, gives the *Versed Sine* of the side sought.

Exam. 1. In the Triangle Figure 5. *BPL*, let there be given the side *BP* 77° 00', the side *PL* 40° 00', and the contained Angle *BPL* 42° 30' to find the side *BL*.

The Log. sine 40d. 00m. 9.8080675
The Log. sine of 77d 00m. 9.9887239
The Log sine of 20d. 15m. 19.2914116
doubled

The Natural sine against— 39.6882030

Is 1227355, whose double is 2454710
The Natur. Versed sine 37d. 00m. 2013645
the dif. of the two sides is

The Versed-sine of 57d. 53m. 4468355
the side sought.

If you make the third Term, the Square of the sine of half the Complement of the contained Angle to 180 degrees, you will find the half Difference of the Versed-sines of the third side, and of the Sum of the two including sides to be doubled, and subtracted from the Versed-sine of the said Sum.

But if instead of the second Term be taken into the Proportion, the double of the Rectangle of the Sines of the containing sides, that is, if the Log. of the Number 2 be added to the Log. of the other middle Terms you will have the Log. of the whole Difference in the last place; having found it, take the Natural Sine that stands against it, and add it to the Natural Versed Sine of the Difference of the Legs, and the Sum is the Natural Versed Sine of the Side sought.

Exam. 2. Let the two containing Sides be 38d. 30m. and 66d. 30m. and the contained Angle be 20d. 00m.

The Log. Sine of 38d. 30m. — 9.7941496

The Log. Sine of 66d. 30m. — 9.9623978

The Log. of the Number 2 — 0.3010300

The Log. Sine of 15d. doubled is 18.8259924

The nearest Nat. Sine against — 38.835698

66° 30' Is 770091

38 30 Which taken from the Nat. 1170524

Versed Sine of 28° 00'

28 00 There remain 300433

the Natural Versed Sine of 53° 10'

This Prop. is of great Use to Calculate the Distances of Places on Earth according to the Arch of a great Circle, by their Longitude and Latitude given; the Distances of Stars, by having their Declinations and Right Ascensions, or Longitudes and Latitudes given, by means whereof the Altitudes of two Stars, or of the Sun with the Difference of time or Azimuth being observed at any time off the Meridian, the Latitude may be found.

C H A P. VII.

*Of Compound Interest and Annuities, by Mr.
Edm. Halley, Savilian Professor of
Geometry in the University of Oxford,
and F. R. S.*

A Principal Use of Logarithms, is to solve all the Cases of Compound Interest, which are not without great Difficulty attainable by the Rules of Common Arithmetick. But before we proceed to the practical part, it may perhaps not be improper to say something of the Foundation or Demonstration of the Rules we are to give.

Therefore let s be any Sum of Money forborn t times : r the Rate of Interest, or produce of one Pound and its Interest in one Time ; that is, as 1 to r , so one Pound to its amount after one Year, or other Space of Time : and let v be the amount of the Sum s forborn t times. Now because in one Year or Time Unity becomes r , by the same Reason r will in another Time become rr , and rr in a 3^d Time become r^3 , &c. It appears that r^t or r raised to the Power, whose Index is the Number of Times, will be the amount of one Pound forborn t times, and therefore $s \times r^t$ will be equal to v the amount. Wherefore multiply the Logarithm of r by t and to it add the Logarithm of s , the Sum shall be the Logarithm of v , which is the Solution of the first Problem.

II. r^t is equal to $\frac{v}{s}$; therefore if from the Logarithm of v the Logarithm of s be subtracted, and the Remainder be divided by t , the Quote is the Logarithm of r .

III. Because r^t is equal to $\frac{v}{s}$; if you divide the Difference of the Logarithms of v and s by the Logarithm of r : the Quote is t , or the Time wherein the Sum s will amount to v at the Rate r .

IV. $\frac{v}{r^t}$ Is equal to s , wherefore if you multiply the Logarithm of r by t and subtract the Product from the Log. of v ; the Remainder shall be the Log. of s the principal Sum.

T t

Again,

The Logarithms are also serviceable to resolve all Questions concerning the Amount or present Worth of Annuities, not paid as due or purchased to be paid for time to come. Let therefore a be any Annuity or yearly Pension, whose successive amounts for times past are ar^t , and whose present Values are $\frac{a}{r^t}$ successively, by what goes before: And the Series, &c. ar^t ,

$ar^t, ar^3, ar^2, ar, a, \frac{a}{r}, \frac{a}{r^2}, \frac{a}{r^3}, \frac{a}{r^4}, \frac{a}{r^5}$, &c. will be a Rank of Mean Proportionals continued infinitely in the Ratio of r to 1 : now the Sum of all the Consequents, or of the whole infinite Series, will be to the said Sum increased by the next greater Term (or the Sum of all the Antecedents) as 1 to r (by 12.5 *Elem. Eucl.*) Wherefore putting y for the said Sum of the Consequents ry will be equal to $y + ar^t$, the Sum of the Antecedents; and $ry - y = ar^t$: and therefore $\frac{ar^t}{r-1}$ will be equal to y , the Sum of all our Mean Proportionals, whereof ar^{t-1} is the greatest. And by the same Rule $\frac{a}{r-1}$ will be the Sum of all the Terms whereof $\frac{a}{r}$ is the greatest. So that if we subtract

$\frac{a}{r-1}$ from $\frac{ar^t}{r-1}$ the Difference will be the Sum of all the Terms, whereof ar^{t-1} is the greatest and a the least, their Number being t ; which Sum we will call z . z therefore is thus to be expressed $\frac{a \times r^t - a}{r-1}$ = to the Amount of the Annuity a forborn t times at the Rate r . Wherefore from the Logarithm of a subtract the Log. of $r-1$, and to the Remainder add the Log. of r^t . From the Number answering to this last Sum, subtract the Number answering to the Remainder, the Difference shall be the Amount sought.

Example, What will an Annuity of 34. 4*l.* forborn 12½ Years amount to at 6 per Cent. per Annum.

$$\text{Log. } a = 34.4 = 1.5365584$$

$$\text{Log. } r-1 = 0.06 = 8.7781513$$

$$\text{Log. } r^t = \text{Remainder } 2.7584071 \quad \text{Numb. } 573.333, \text{ \&c.}$$

$$0.3163237$$

$$3.0747308$$

$$\text{Numb. } 1187.7661$$

$$614.4328 = z$$

The

The Decimal parts of *1l.* may be valued by the preceding Table, or at sight thus, *viz.* the first Figure doubled is Shillings, the second and third joyn'd are Farthings, abating one for every 25, for .025 is 6*d.* .050 is 1*s.* and .075 is 18*d.*

A Decimal TABLE of Days and Months in a Year.

Note, That every Column begins with the Decimal of an even 10 Days, and increases downwards, so the Decimal of 20 Days is .054795, of 21 .057534.

	10days	20days	30days	40days	50days	60days	70days	80days	90days	
0	.027337	.054795	.082192	.109589	.136986	.164384	.191781	.219178	.246575	0
1	.002740	.030137	.057534	.084932	.112329	.139726	.167123	.194521	.221918	1
2	.005479	.032877	.060274	.087671	.115068	.142466	.169863	.197260	.224658	2
3	.008219	.035616	.063014	.090411	.117808	.145205	.172603	.200000	.227397	3
4	.010959	.038356	.065753	.093151	.120548	.147945	.175342	.202740	.230137	4
5	.013699	.041096	.068493	.095890	.123288	.150685	.178082	.205479	.232877	5
6	.016438	.043836	.071233	.098630	.126027	.153425	.180822	.208219	.235616	6
7	.019178	.046575	.073973	.101370	.128767	.156164	.183562	.210959	.238356	7
8	.021918	.049315	.076712	.104110	.131507	.158904	.186301	.213699	.241096	8
9	.024658	.052055	.079452	.106849	.134247	.161644	.189041	.216438	.243836	9
Months	Decim.	Months	Decim.	Months	Decim.	Months	Decim.	Months	Decim.	
1	.083333	4	.333333	7	.583333	10	.833333	100	.273973	
2	.166667	5	.416667	8	.666667	11	.916667	200	.547945	
3	.25	6	.5	9	.75	12	1	300	.821918	
									.30511	

The following Table shews the exact Number of Days from any Day proposed in any Month, to the same Day of any other Month throughout the Year: For Instance, from the 1st, 10th or 20th of *June* to the 1st, 10th or 20th of *March* is 273 Days, I find *June* at the Head and look down that Column, and over-against *March* in a Right-line is 273, so if it was from the 15th of *June* to the 16th of *March*, I consider, that the Number of Days is one more than 273, *viz.* 274 Days. The same Way is found any Number of Days in any Time under a Year by Inspection,

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Octo.	Nov.	Dec.	
Jan.	365	334	306	275	245	214	184	153	122	92	61	31	Jan.
Febr.	31	365	337	306	276	245	215	184	153	123	92	62	Febr.
Mar.	59	28	365	334	304	273	243	212	181	151	120	90	Mar.
Apr.	90	59	31	365	335	304	274	243	212	182	151	121	April
May	120	89	61	30	365	334	304	273	242	212	181	151	May
June	151	120	92	61	31	365	335	304	273	243	212	182	June
July	181	150	122	91	61	30	365	334	303	273	242	212	July
August	212	181	153	122	92	61	30	365	334	304	273	243	August
Sept.	243	212	184	153	123	92	62	31	365	335	304	274	Sept.
Octob.	273	242	214	183	153	122	92	61	30	365	334	304	Octob.
Nov.	304	273	245	214	184	153	123	92	61	31	365	225	Nov.
Decem.	334	303	275	244	214	183	152	122	91	61	30	265	Decem.

The Logarithms are also serviceable to resolve all Questions concerning the Amount or present Worth of Annuities, not paid as due or purchased to be paid for time to come. Let therefore a be any Annuity or yearly Pension, whose successive amounts for times past are ar^t , and whose present Values are

$\frac{a}{r^t}$ successively, by what goes before : And the Series, &c. ar^t ,

$ar^t, ar^3, ar^2, ar, a, \frac{a}{r}, \frac{a}{r^2}, \frac{a}{r^3}, \frac{a}{r^4}, \frac{a}{r^5}, \&c.$ will be a Rank of Mean Proportionals continued infinitely in the Ratio of r to 1 : now the Sum of all the Consequents, or of the whole infinite Series, will be to the said Sum encreased by the next greater Term (or the Sum of all the Antecedents) as 1 to r (by 12.5 *Elem. Eucl.*) Wherefore putting y for the said Sum of the Consequents ry will be equal to $y + ar^t$, the Sum of the Antecedents ; and $ry - y = ar^t$: and therefore $\frac{ar^t}{r-1}$ will be equal to y , the Sum of all our Mean Proportionals, whereof $ar^t - 1$ is the greatest. And by the same Rule $\frac{a}{r-1}$ will be the Sum of

all the Terms whereof $\frac{a}{r}$ is the greatest. So that if we subtract

$\frac{a}{r-1}$ from $\frac{ar^t}{r-1}$ the Difference will be the Sum of all the Terms, whereof $ar^t - 1$ is the greatest and a the least, their Number being t ; which Sum we will call z . z therefore is thus to be expressed

$\frac{a \times r^t - a}{r-1} =$ to the Amount of the Annuity a forborn t times at the Rate r . Wherefore from the Logarithm of a subtract the Log. of $r-1$, and to the Remainder add the Log. of r^t . From the Number answering to this last Sum, subtract the Number answering to the Remainder, the Difference shall be the Amount sought.

Example, What will an Annuity of 34. 4*l.* forborn 12½ Years amount to at 6 per Cent. per Annum.

$$\text{Log. } a = 34.4 = 1.5365584$$

$$\text{Log. } r-1 = 0.06 = 8.7781513$$

$$\text{Log. } r^t = \text{Remainder } 2.7584071$$

$$= 0.3163237$$

$$3.0747308$$

$$\text{Numb. } 573.333, \&c.$$

$$\text{Numb. } 1187.7661$$

$$614.4328 = Z$$

The

The Annuity, its Amount, and the Rate of Interest being given
to find the Time.

By the foregoing Rule $\frac{a \times r^t - a}{r - 1} = z$ therefore $z + \frac{a}{r - 1} = \frac{a}{r - 1} \times r^t$, Wherefore from the Log. of a subtract the Log. of $r - 1$: to the Natural Number found by the Remainder add the Amount proposed, and from the Log. of the Sum subtract the a-fore-found Remainder, which shall be the Log. of r^t : This divided by the Log. of r shall Quote the Time required.

Example, In what Time will an Annuity of 34,4 l. amount to 614.4328 at the Rate of 6 per Cent.

Log. $a = 34.4 = 1.5365584$

Log. $r - 1 = 0.06 = 8.7781513$

Remainder 2.7584071

Numb. 573.333, &c.

614.432, &c.

Log. 3.0747308

1187.7661

,0253059)0.3163237(12½ Years = T.

III. The same Equation in Order to find what Annuity being forborn t Years, at the Rate r , will amount to z , is reduced to $\frac{rz - z}{r^t - 1} = a$, whence the Rule. To the Log. of the Amount z , add the Log. of $r - 1$, and from the Sum subtract the Log. of $r^t - 1$, the Number answering to the Remainder is the Logarithm of a .

Example.

An Annuity forborn 12½ Years amounts at 6 per Cent. to the Sum of 614 l. 4328. how much is that Annuity.

Log. $z = 2.7884744$ 0,0253059

Log. $r - 1 = 8.7781513$ 12½

1.5666257 0,0126530

0.0300671 0,3036708

Log. $a = 1.5365586$ 0,3163238 Log. $r^t = 2.071685$

1,

$a = 34.4$

Log. 0.0300671 = 1,071685 = $r^t - 1$

IV. In Order to find r , the same Equation is reduced to $\frac{z}{a} - 1$

$= \frac{z}{a} r - r^t$, or in our present Case 16.8614 = 17,8614 $r - r^t$.

Which is so affected as not readily to be resolved by the General,

ral Method for Resolution of Equations, unless we can first approach it by some other Means. For which Purpose take the following Rule (which will suffice where extream Exactness is not demanded.) Let $\frac{t-1}{2} \frac{z}{at} = 1 + \gamma$, and let $\frac{6}{t+1} = b$. I say, that $\sqrt{bb + 2by} - b$ is exceeding near the Increase of the Rate or $r-1$.

Wherefore from Log. of the Amount, subtract the Sum of the Logarithms of the Time and Annuity, and the Remainder divide by $\frac{t-1}{2}$. The Quote shall be the Log. of $1 + \gamma$. From the Log. of 6, subtract the Logarithm of $t + 1$, and to b the Number answering to the Remainder, add twice γ . To the said Remainder add the Logarithm of $b + 2\gamma$, and half the Sum shall be the Logarithm of $\sqrt{bb + 2by}$, from which Square Root subtract b , the Residue will be very near the Increase, or $r-1$: and adding 1, the Rate r is found. If extream Exactness be desired let r thus found be assum'd, and $\frac{z}{a} r - r^t$ compared with $\frac{z}{a} - 1$; will always be greater than it: and dividing the Excess by $r^{t-1} - \frac{z}{a}$, the Quote added to r shall verify as many more Figures in the Rate as were true in the assumed r .

Example.

An Annuity of 34 4l. forborn $12 \frac{1}{2}$ Years amounts to 614 l. 43s. 28. It is required what Rate of Interest is allowed.

$$\begin{array}{r} 2.7884744 \quad \text{Log. } z. \\ 1.0969100 \quad \text{Log. } t. \\ 1.5365586 \quad \text{Log. } a. \\ \hline 2.6334686 \end{array}$$

$$\left(\frac{t-1}{2} \right) 0.1550058 \quad (0.269575 = \text{Log. } 1 + \gamma = 1.06404$$

$$2\gamma = .12808$$

$$\frac{6}{13\frac{1}{2}} = \frac{6}{t+1} = b = 0.44444, \text{ &c. Log. } 9.6478175$$

$$2\gamma = 0.12808$$

$$b + 2\gamma = \gamma 0.57252 \quad \text{Log. } 9.7577936$$

$$bb + 2by \quad \text{Log. } 19.4056111$$

$$0.504435 = \sqrt{.9.7028055}$$

$$444444$$

$$.059991 = r-1, \text{ wherefore}$$

$$1.059991 = r.$$

I. After

I. After the same manner the four Cases relating to the Purchase of Annuities are readily solved by Logarithms, and the Theorems discovered with the same Ease; for $a, \frac{a}{r}, \frac{a}{r^2}, \frac{a}{r^3}, \frac{a}{r^4}, &c.$ being a Scale of mean Proportionals in the Ratio of r to 1, put y for the Sum of all the Consequents infinitely continued, whereof $\frac{a}{r}$ is the first, and that Sum will be to the Sum of all the Antecedents whereof a is the first, as 1 to r , that is as $1:r::y:ry$, so that $ry = y + a$, and $\frac{a}{r-1}$, will be equal to y the Value of the Fee, or the Sum of all the mean Proportionals less than a . And by the same Rule $\frac{a}{r^t \times r - 1}$ will be the Sum of all the Means less than $\frac{a}{r^t}$, or the Value of the Reversion: and Subtracting the one Sum from the other $\frac{a}{r-1} - \frac{a}{r^t \times r - 1}$ will be equal to z the Sum of all the Means, whereof $\frac{a}{r}$ is the greatest, and $\frac{a}{r^t}$ the least. Wherefore from Log. of the Annuity subtract the Log. of $r-1$, and from the Residue subtract also the Log. of r^t , the Difference of the Numbers answering to the two Remainders is the present Value sought.

Example.

What is 70 *l.* per Annum to continue 59 Years worth in present Money, at the Rate of 5 per Cent. per Annum.

Log. 0.0211893	1.8456980	Log. 70, = a
59	8.6989700	Log. .05 = $r-1$
0.1907037	3.1461280	Log. 1400 = The Fee.
1.059465	1.2501687	
1.2501687	1.8959593	Log. 78.6972 The Reversion
	1321.3028	The Value sought

The same Equation may be reduced to the following Proportion, as $r-1$ to a , so $1 - \frac{1}{r^t}$ to z the present Value sought. Wherefore take Ar. Co. of Log. of r^t , and subtract from Unity the Number answering thereto. To Log. of the Remainder add Log. of a and Ar. Co. of $r-1$, the Sum shall be Log. of z . As in the former Example.

Log.

Log. $r^t = 1.2501687$

Ar. Co. 8.7498313 = 0.0562123

9437877

Log. 9.9748742

Log. $a = 1.8450980$

Co. Ar. 1.3010300 $r-1$

Log. $z = 3.1210022 = 1321,3028$

H. If the Time be sought, having the Annuity, present Worth and Rate of Interest given, r^t will be equal to $\frac{a}{r-1}$ (or the Fee)

divided by the Value of the Reversion, that is by $\frac{a}{r-1} - z$.

Whence the Rule. From the Log. of the Annuity, subtract the Log. of the Interest or $r-1$; with what remains seek the Natural Number, which will be the Value of the Fee; from it subtract the present Worth, the Residue is the Value of the Reversion. Take the Log. thereof from the Log. of the Fee, and the Residue will be Log. of r^t . Wherefore divide that Residue by Log. of r , the Quotient will be t the Number of Years sought.

Example.

In what Time will an Annuity of 70 *l.* per Annum pay off a Debt of 1321 *l.* 3028, allowing the Creditor 5 per Cent. per Annum

1.8450980 Log. 70 = a

8.6989700 Log. 05 = $r-1$

3.1461280 Log. 1400 = The Fee

Log. Reversion 1.8959593 $1321,3028 = z$

0.0211893 $1.2501687(59. 78,6972 = \text{Reversion}$

Or thus, to Log. of z add Log. of $r-1$, the Number answering to the Sum subtract from the Annuity a : The Log. of the Remainder taken from Logarithm of a leaves the Log. of r^t as before.

Log. $z = 3.1210023$

Log. 70 = 1.8450980

Log. $r-1 = 8.6989700$

70

Log. 3.93486 Co. 0.5949293

1.8199723 Log. 66.06514 Log. $r = 1.2501687$ as bef.

3.93486.

III. Having the Time, Rate of Interest, and present Worth proposed, to find what Annuity that Sum shall purchase. By transposing the Proportion mentioned in the first Problem, it will be as $1 - \frac{1}{r^t}$ to z , so $r-1$ to a the Annuity sought.

Wherefore from the Sum of the Logarithms of z and $r-1$ subtract the Log. of $1 - \frac{1}{r^t}$, the Remainder shall be Log. of a .

Example

Example.

What Annuity to continue 59 Years can be purchased for 1321.30281. at the Rate of five per Cent. per Annum.

$$\text{Log. } r^t = 1.2501687$$

$$\text{Co. Ar. Log. } \frac{1}{r^t} = 8.7498313 = .0562123$$

$$1 - \frac{1}{r^t} = .9437877 \quad \text{Log. } \underline{9.9748742}$$

$$\text{Log. } z = 3.1210022$$

$$\text{Log. } r - 1 = 8.6989700$$

$$1.8199722$$

$$\underline{9.9748742}$$

$$\text{Log. } a \quad 1.8450980 = 70$$

IV. The Annuity, its present Worth, and Time of Continuance being proposed. It is required to find the Rate of Interest, that is a , z and t being given to seek r .

This Problem being of more Difficulty than appears at first Sight, and requiring the Solution of this Equation $\frac{a}{z} = \frac{z + a}{z} r^t$

$-\frac{t+1}{r}$, to which it is reduced; there must be applied some Method of approaching the Root r , which is by no Means evident: And that Approximation as the Number of Years and Rate are greater or less, cannot properly be obtained by one General Rule; but rather by two, according as the Value of the Reversion is greater or lesser.

If the Number of Years be great (as suppose 40 or upwards) especially if the Rate of Interest be high $1 + \frac{a}{z}$ will be nearly the Rate, or more accurately $\frac{z + a}{z} - \frac{z^t}{z + a} \times \frac{a}{z}$. Call it r ; and $\frac{a}{r^t \times r - 1}$ will be exceeding near the Value of the Reversion.

Let it be x , then $1 + \frac{a}{z + x}$ shall approach the true Rate sufficiently. But if greater Accuracy be desired by repeating this process you cannot fail of your Desire. Hence this Rule: From Log. of a , as also from Log. of $z + a$, take Log. of z , this latter Remainder shall be nearly the Log. of the Rate. Multiply that Log. by t , and to the Arithmetical Complement of the Product, add the first Remainder. The Decimal answering to the Sum taken from the former Rate shall give a more correct

V v

Rate.

Rate. With that Rate seek the Reversion after the Time given $=x$, which add to z . From Log of a take Log of $z+x$: The Remainder shall be the Log. of the Interest or $r-1$ sufficiently near.

Example.

1321. 3028*l.* is paid for an Annuity of 70 *L. per Annum* for 59 Years to come. I demand the Rate of Interest allowed the Purchaser.

a Log. 1.8450980 z Log. 3.1210022 <hr style="width: 100%;"/> 8.7240958	$z+x$ Log. 3.1434217 z Log. 3.1210022 <hr style="width: 100%;"/> 0.0224195	1.052978 <hr style="width: 100%;"/> 002520 — 59 <hr style="width: 100%;"/> 1.322750 1.050458 = r 8.677250 Co. Ar. a <hr style="width: 100%;"/> 8.724096 Log. r 7.401346 Log. 002520
1.050458 = r Log. 0.0213787 <hr style="width: 100%;"/> 59 Log. r^t 1.2613433 1.050458 = $r-1$ = 8.7029300 <hr style="width: 100%;"/> 9.9642733 Co. Ar. 0.0357267 Log. a 1.8450980 <hr style="width: 100%;"/> 1.8808247	1321.303 = z Log. a 1.8450980 <hr style="width: 100%;"/> 76.002 = Reversion = x 1397.305 = Fee $z+x$ Log. 3.1452912 Interest sought 1050096 Log. 8.6998068	

If the Number of Years be small, the aforesaid Rule will avail little. In this Case it will be requisite to approach the Rate thus. Let $\frac{t+1}{2}$ be the Index of a Root of $\frac{a^t}{z}$; from which Root take Unity, and the Remainder call y , and let $\frac{6}{t-1}$ be called b . I say, that $1+b-\sqrt{bb-2by}$ is sufficiently equal to r the Rate sought, and will be still nearer the Truth, as the Number of Years is smaller; and the Error that is will be always in Excess. Hence the Rule: Divide the Logarithm of $\frac{a^t}{z}$ by $\frac{t+1}{2}$ and from the Number answering to the Quota take Unity: Double the Remainder, and subtract it from b ; that is from the Quota of six divided by $t-1$: To the Logarithm of what remains, add the Log. of b . Then the Number answering to half the Sum of those Logarithms taken from $1+b$ will leave the Rate sought.

Exam-

Example.

An Annuity of 20*l.* *per Annum*, to continue 21 Years, is sold for 220*l.* I demand the rate of Interest allowed the Purchaser.

$$\begin{array}{rcl}
 a = 20 \text{ Log. } 1.3010300 & & \frac{6}{t-1} = b = \frac{6}{20} = .3 \\
 t = 21 \text{ Log. } 1.3222193 & & \\
 a \times t & 2.6232493 & \\
 z = 220 \text{ Log. } 2.3424227 & \text{Log.} & \\
 t + 1 = 22 & 0.2808166 \text{ (0.0255297} & \\
 2 & \text{Numb. 1.06054} & \\
 & 2y = 0.12108 & \\
 & b \quad 0.3 & \text{Log. 9.4771213} \\
 b - 2y & 0.17892 & \text{Log. 9.2526589} \\
 & \sqrt{0.23168} & 18.7297802 \\
 1 + b - \sqrt{r} & 1.06833 & \sqrt{93648901} \\
 & \text{The Rate sought.} &
 \end{array}$$

The Rate *r* thus found is always some small matter too big, the true Rate being 1.06814; but as the Number of Years are fewer, the Error becomes insensible. If greater Exactness be required, 'twill be easy by the General Method for the Resolution of Equations, having so near an Approximation to prosecute this Enquiry as far as you please. But this seems abundantly sufficient for Use, which is our principal Design in this Place.

Lastly, By way of Corollary to the former. Let it be required to find the Rate of Interest allowed the Purchaser when he pays a Sum = *z*, for an Annuity = *a*, wherein he has already a Term = *t*, to have it prolong'd for a certain Time = *x*. As for Example, I have an Annuity of 20*l.* *per Annum* for the Term of 21 Years, and for 40*l.* paid down, I can have my Term prolonged for 10 Years more, or to 31 Years. I demand, what Rate of Interest is allowed me.

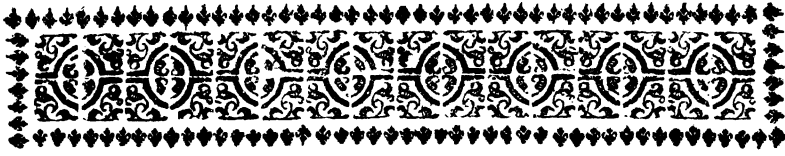
Rule. Call $2t + x + 1$ by the Name of *T*, and $\frac{1}{2}T$ shall be the Radical Sign of a Root of $\frac{a \times x}{z}$. Let $\sqrt{\frac{1}{2}T \frac{a \times x}{z}}$ be equal to $1 + y$, and $\frac{6T + 6}{xx} = b$. I say the Rate sought is very near to $1 + b - \sqrt{bb - 2by}$. As in the foregoing Example.

$$\begin{array}{rcl}
 \text{Log. } a = 1.3010300 & 2t + x + 1 = T = 53 & \\
 \text{Log. } x = 1.0000000 & & \\
 \hline
 2.3010300 & \frac{6T+6}{xx} = 3.24 = b & \\
 1.6020600 & & \\
 \hline
 \frac{1}{2}T = 26\frac{1}{2} & 0.6989700 & (0.0263762. \text{ Log. } 1.062616 \\
 & & \begin{array}{r} .125232 = 2y \\ \text{Log. } b \ 0.5105450. \ 3.24 \quad b \\ \text{Log. } 0.4934257. \ 3.114768 = b - 2y \\ \hline 1.0039707. \\ \sqrt{0.5019853.} \ 3.176768 \ \sqrt{bb - 2by} \\ \text{The Rate} = r = 1.063232 \\ \text{or } 6l. \ 6s. \ 5d. \text{ per Cent.} \end{array}
 \end{array}$$

As will be readily proved by seeking the Value of the Reversion of an Annuity of 20*l.* per Annum for Ten Years after 21; at the Rate of 1,063232 per Cent. The Work stands thus.

$$\begin{array}{rcl}
 r = 1.063232 & \text{Log. } 0.0266280 & \text{Log. } r \\
 & \text{Log. } rt \ 0.5591880 & \text{Log. } rt \\
 & 8.8009369 & \text{Log. } r - 1 \\
 & \hline
 9.3601249 & \text{Sum} & \\
 0.6398751 & \text{Comp. Arith.} & \\
 1.3010300 & \text{Log. } a & \\
 \text{Reversion. } 87.2781 & 1.9409051 & \text{Log. Reversion after } 21 \\
 & 0.2662806 & \text{Log. } r^x \\
 \text{Reversion. } 47.2743 & 1.6746251 & \text{Log. Reversion after } 31 \\
 \text{Value } 40.0038 & \text{found.} &
 \end{array}$$

Thus it appears that 40 *l.* and about one Penny, is the true Value of the Difference of the Reversions: by which the Reader may judge how near an Approximation the foregoing Rule affords, towards finding the Rate of Interest, when the Value of an Annuity for a Term of Years to commence after a certain Time is proposed.



The Propositions of Navigation that occur in the Practice of Sailing by MERCATOR.

IN this Collection of Tables we should by no means have omitted that most necessary one of the Meridional Parts, designed for the Service of Navigators, if it's Uses were not fully supply'd by the Table of Logarithmic Tangents: As is demonstrated in N^o 219 of the Philosophical Transactions. It is there proved. 1^o. That the Meridional Line, or Scale of *Mercator's Chart*, is a Scale of the Logarithm-Tangents of the half Complements of the Latitudes. 2^{dly}, That such Logarithm-Tangents of Mr. *Brigg's* Form, are a Scale of the Differences of Longitude, upon the Rhumb which makes an Angle of $51^{\circ}.38'.9''$. with the Meridian. And 3^{dly}. That the Differences of Longitude, on differing Rhumbs, are to one another as the Tangents of the Angles of those Rhumbs with the Meridian.

Hence it follows, that the Difference of the Logarithm-Tangents of the half Complements of the Latitudes, is to the Difference of Longitude a Ship makes in Sailing on any Rhumb from the one Latitude to the other, as Tangent of $51^{\circ}.38'.9''$. (whose Logarithm is 10.1015104 :) to Tangent of the Angle of the Rhumb or Course with the Meridian, So that if two Latitudes, and the Difference of Longitude be given, the Course is readily determined by this Rule. Take, by help of the Tables, the Difference of the Logarithm-Tangents of the half Complements of the Latitudes, esteeming the three last Figures to be Decimals; and subtract the Logarithm thereof from the Sum of the Logarithms of the Difference of Longitude reduced to Minutes, and of the constant Log. 10.1015104. The Sum shall be the Log of the Tangent of the Course. And to Log. of the Secant of the Course, add Log. of the Difference of Latitude reduced to Minutes, the Sum shall be Log. of the Distance in Minutes.

Exa.

Example:

The *Lizard* is in Latitude $49^{\circ} 55'$ North, *Barbadoes* in $13^{\circ} 10' N$.
Difference of Longitude $53^{\circ} 00'$, or 3180 Minutes. Difference of Latitude 2205 Minutes.

$$\begin{array}{r}
 \text{Comp. Lat. } \left\{ \begin{array}{l} 76^{\circ} 50' \\ 40. 5 \end{array} \right\} \frac{1}{2} \left\{ \begin{array}{l} 38^{\circ} 25' \\ 20. 2 \frac{1}{2} \end{array} \right\} \begin{array}{l} \text{Tan. } 9.8993082 \\ \text{Tan. } 9.5620477 \end{array} \begin{array}{r} 3.5024271. \text{ Log. } 3180 \\ 10.1015104. \\ \hline 3.6039275. \end{array} \\
 \text{Dif. } 3372.605 \text{ Log. } 3.5279654 \text{ Log. Dif. Tang.} \\
 \text{Tang. } 49^{\circ} 59' 10'' \begin{array}{r} 10.0759721 \text{ Tang. Course.} \\ \hline 10.1918071 \text{ Secant Course} \\ 3.3434086 \text{ Log. } 2205 \\ \hline 3.5352157 \text{ Log. Distance.} \end{array} \\
 \text{Minutes. } 3429.38
 \end{array}$$

Thus may a Ship at Sea estimate the true Course she must Stear, and the Distance of her Port.

II. If two Latitudes and the Course being given, the Difference of Longitude is obtained with the same Ease: For as Tangent of $51^{\circ} 38' 9''$ to the Tangent of the Course, so the Difference of Logarithm Tangents of the half Complements of Latitudes, to the Difference of Longitude sought. Wherefore from the Sum of the Logarithm Tangent of the Course, and of the Log. of the said Difference of the Logarithm Tangents of the half Complements of the Latitude, subtract the constant Log. 10.1015104: the Remainder shall be Log. of the Difference of Longitude in Minutes: as in the former Example. Let the Latitudes be $49^{\circ} 55'$ and $13^{\circ} 10'$, and Course $49^{\circ} 59' 10''$.

$$\begin{array}{r}
 \text{The Dif. of the Log. Tang. } 3372.605 \text{ its Log. } 3.5279654 \\
 \text{Log. Tang. Course } 10.0759721 \\
 \hline 13.6039375 \\
 10.1015104 \\
 \hline \text{Log Long.} = 3180' \quad 3.5024271 \text{ or } 53gr
 \end{array}$$

By this Rule, having two good Observations of the Latitude and the Course duly steard, the Reckoning of a Ship's Way is best ascertained, especially if you sail near the North or South.

III. The Latitude you depart from, the Course Steard and Distance sailed being given, its required to find the Ships Latitude and Difference of Longitude. First the Latitude is obtain'd from the Consideration that the Distance is to the Difference of Latitude or the *Hypotenusa* to the Base, as Radius to the Co-sine of the Course, which is common to Plain Sailing. Then having the two Latitudes and Course, the Difference of Longitude is found by the last Rule.

Exam-

Example.

I have Sailed from the *Lizard* on a Course $46^{\circ} 59' 10''$ South-westerly 3429.38 Miles : 'Tis required in what Longitude and Latitude the Ship is found.

Log. Dist.	3.5352157		
Log. Co-sine Course	9.8081929	min.	$49^{\circ} 55'$
Log. Differ. Latit.	3.3434086	= 2205	or $\frac{36}{45}$
		Latit. sought	$13 \quad 10$

By which Latitude now known, the Difference of Logarithm Tangents will be found 3372.605 and the further Process in nothing differing from the Second Rule, whereby the Difference of Longitude will be found $53^{\circ} 00'$.

Thus the dead Reckoning by the Logg, and daily Account of a Ship's way is duly kept, and the Trouble thereof very little more than by Plain-Sailing.

And these are all the Cases that occur in Practice ; the rest that are mostly Speculative, are either easily reducible to these, or else not to be performed by Logarithms, and therefore come not at present under our Cognizance.

Only 'tis to be Noted, that both the Complements of the Latitudes are to be Estimated from the same Pole of the World ; it is not material from whether : and therefore if one Latitude be North, and the other South, you must add 90 Degrees to one of them, and subtract the other from 90, and then take their halves.

F I N I S.

A D V E R T I S E M E N T.

NEAR Union-stairs, a little below the Hermitage, London ; Gentlemen are in the best Manner, (in a pleasant House, situate by the River side) boarded and taught the Mathematicks, viz. Arithmetick, Geometry and Algebra, with their Application to Trigonometry, Navigation, Mensuration, Surveying, Gauging, Gunnery, Fortification, Perspective ; the Use of the Globes, Projection of the Sphere, Astronomy, Dillaining, &c. and also Merchants Accounts after the Italian Manner ; by Tho Haseiden, formerly Teacher of the Mathematicks to his Majesties Volunteers in the Royal Navy, and Author of two small Tracts written in Defence of the Mercator's and against the Globular Projection of SEA-CHARTS.

BOOKS of Navigation Printed for Thomas Page, William and Fisher Mount.

THE Coasting Pilot for *England Scotland, Holland, &c.*

The E. Pilot for the Channel, English Pilot for the *Streights.*

The English Pilot for the *Northern Navigation.*

The English Pilot for the *West Indies.* English Pilot for the *East-Indies.*

Sea-Atlas, containing Charts of the Sea Coast of the whole World.

The Mariners New Kalendar. By *Nathaniel Colson.*

The Mariners Magazine. By Capt. *Samuel Sturmy*, Folio.

The Seamans Kalendar. By *Henry Phillips.*

The Seamans New Kalendar. By *William Leybourne.*

The Seaman's Practice. By *Richard Norwood.*

Norwood's Doctrine of Triangles, applied to Navigation,

Practical Navigation; or, an Introduction to the whole Art.

The whole Art of Navigation, By Capt. *Daniel Newbouse.*

A Light to the Art of Gunnery. By Capt. *Thomas Binning.*

A System of the *Mathematics*, containing the *Euclidian Geometry*, Plain and Spherical Trigonometry; the Projection of the Sphere, Astronomy, the Use of the Globes and Navigation: The Manner of Computing the Appulse of the Moon to the Fixed Stars; New *Solar Tables*, with their Construction and Use, Tables of the Suns Place, Right Ascension, Declination, Equation of Natural Days for every Four Years, &c. and a Catalogue of the Right Ascensions, Declinations, &c. of the most Eminent Fixed Stars: Deduced from the *Flamsteedian Observations.* The Construction of the *Meridional Parts*, *Logarithms*, *Sines*, *Tangents*, and *Secants*: With an Account of the *Cycles*, *Periods*, *Epochs*, *Epoets*, *Kalendars*, &c.

Also a Table of *Meridional Parts* for every Degree and Minute of Latitude to the Ten Thousandth Place in Decimals, calculated *de Novo*; with a Table of the Latitudes and Longitudes of Places; the whole being designed for the Use of the *Mathematical School*, founded by King *Charles II.* in two Vol. By *James Hodgson.*

Navigation New Modell'd. By *Henry Wilson.*

The Compleat Modelist, or *Art of Rigging*; shewing how to raise the Model of any Ship; and to find the Length and Bigness of every Rope, with the Weight of their Anchors and Cables.

The Boatswain's Art; shewing the Art of Rigging any Ship, &c.

The Compleat Shipwright. By *Edmund Busbnet*, Shipwright.

The Ship-Builders Assistance. By *William Soutberland.*

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The Seaman's Glass, with the Use of the Plain-Scale in *Navigation.*

Sea-Gunners Companion. By Capt. *Povey.*

An Epitome of the whole Art of Navigation, containing an easie methodical way to become a compleat Navigator. By *J. Atkinson.*

Epitome of Navigation the Three kinds of Sailing; *Astronomy* and *Geography*, with useful Tables in Navigation. By *H. Gellibrand.*

Norwood's Epitome of Navigation, with Additions. By *J. A.*

Mariners *Compass* Rectified. By *Andrew Wakely*, much enlarged.

The use of the double Scale of Proportion. By *Setb. Partridge.*

An Epitome of Navigation. By *William Jones.*

Arithmetical Trigonometry. By *Mark Foster.*

Key to Arithmetick and Algebra. By *J. Parsons.*

N B. There are all sorts of *Mathematical* and *Sea-Books*, *Pilots* and *Sea-Charts* for all *Parts* of the *World*, Plain and Mercator; or *Books* of any other Subjects; *Paper*, or *Paper-Books*, the best *Ink*, and all other *Stationary-Ware.*



